State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal: Nov | 2013

Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
1700-80.1	Refined ACR Storage Tank	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: EQT0199		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	NA ft / ft²	NS ft	NA ft/sec	NA ft^3/min	23 °F	* hr/yr	Mar 1971	25%	25%	25%	25%

Type of Fuel Used and Heat Input (see instructions)

Fuel	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

Emissions from this source are routed to emission point 1700-80

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	3 MM lb/yr	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	50,000 gal	
Shell Height (ft)	34	
Tank Diameter (ft)	16	

Tanks: ☑ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered | Engine Model Year

Date Engine Was Built by Manufacturer

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1700-80.1	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates			Permitted Emission Rate (Current)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Pollutant				Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Annual (tons/yr)			
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		*	0.03	*	*	C		ppm by vol
Lead										ppm by vol
										ppm by vol
										ppm by vol
										ppm by vol

State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal: Nov | 2013

Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)
1700-80.2	Chlorinated ACR Storage Tank
Tempo Subject Item ID No.	
EQT0200	

Approximate Location of Stack or Vent (see instructions)

Method: 06,"Address Matching-Primary Name" Datum: NAD83

UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN

Latitude: 30 ° 3 ' 15 " hundredths

Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	NA ft ft^2	NS ft	NA ft/sec	NA ft^3/min	23 °F	* hr/yr	Jun 1968	25%	25%	25%	25%

Type of Fuel Used and Heat Input (see instructions)

Fuel		Type of Fuel	Heat Input (MMBTU/hr)
	a	NA	NA
	b		
	c		

Notes

Emissions from this source are routed to emission point 1700-80

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	3 MM lb/yr	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	22,164 gal	
Shell Height (ft)	27	
Tank Diameter (ft)	12	

Tanks: ☑ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered | Engine Model Year

Date Engine Was Built by Manufacturer

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1700-80.2 Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Proposed Emission Rates: Maximum (lbs/hr)	Proposed Emission Rates: Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		*	0.04	*	*	C		ppm by vol
Lead										ppm by vol
										ppm by vol
										ppm by vol
										ppm by vol
										ppm by vol

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Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal: Nov | 2013

Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
1700-81	ACR Refining Vent	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: RLP0018		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	0.33 ft / ft²	70.2 ft	0.13 ft/sec	1 ft^3/min	82 °F	8,760 hr/yr	Jul 2007	25%	25%	25%	25%

Fuel	Type of Fuel Used and Heat Input (see instructions)		
		Type of Fuel	Heat Input (MMBTU/hr)
	a	NA	NA
	b		
	c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	1,123 lb/hr	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	NA	
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered: | Engine Model Year:

Date Engine Was Built by Manufacturer:

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1700-81 / Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Proposed Emission Rates: Maximum (lbs/hr)	Proposed Emission Rates: Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		1.00	10.00	2.20	2.20	U		ppm by vol
Lead										ppm by vol
Hydrochloric acid	000	0%		0.3	4.5	0.7	0.7	U		ppm by vol
										ppm by vol
										ppm by vol

State of Louisiana
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Date of submittal: Nov | 2013

Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)
1700-82	ACR Solvent Blend Tank
Tempo Subject Item ID No.	
EQT0201	

Approximate Location of Stack or Vent (see instructions)

Method: 06,"Address Matching-Primary Name" Datum: NAD83

UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN

Latitude: 30 ° 3 ' 15 " hundredths

Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	0.167 ft / ft²	30 ft	NA ft/sec	NA ft^3/min	25 °F	* hr/yr	Sept 2007	25%	25%	25%	25%

Fuel — Type of Fuel Used and Heat Input (see instructions)

	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

*Hours of venting vary per solvent used.

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	2,000 drums/yr	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	960 gals	
Shell Height (ft)	9	
Tank Diameter (ft)	4	

Tanks: ☑ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered: | Engine Model Year:

Date Engine Was Built by Manufacturer:

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1700-82 / Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Proposed Emission Rates: Maximum (lbs/hr)	Proposed Emission Rates: Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		0.13	0.14	0.01	0.037	C		ppm by vol
Lead										ppm by vol
Tetrachloroethylene	000	0%	00127-18-4	0.40	0.56	0.01	0.01	C		ppm by vol
Xylene (mixed isomers)	000	0%	01330-20-7	0.10	0.14	0.001	0.001	C		ppm by vol
Dichloromethane	000	0%	00075-09-2	7.05	9.90	0.02	0.02	C		ppm by vol

Tetrachloroethylene and Dichloromethane are not VOCs

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Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
3-95	Diversion Tank	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: EQT0202		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	NA ft	NA ft	NA ft/sec	NA ft^3/min	77 °F	8,760 hr/yr	Sept 1995	25%	25%	25%	25%
	ft²										

Fuel	Type of Fuel Used and Heat Input (see instructions)		
		Type of Fuel	Heat Input (MMBTU/hr)
	a	NA	NA
	b		
	c		

Notes

Operating Parameters (include units)		
	Parameter	Description
Normal Operating Rate/Throughput	27,000 gal/hr	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	660,222 gal	Open tank WWT treatment
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	
Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal		
Date Engine Ordered		Engine Model Year
Date Engine Was Built by Manufacturer		
SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke		

Emission Point ID No. (Designation): 3-95	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates			Permitted Emission Rate (Current)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Pollutant				Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Annual (tons/yr)			
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		<0.01	<0.01	<0.01	0.21	C		ppm by vol
Lead										ppm by vol
Chloroprene	000	0%	00126-99-8	<0.01	<0.01	<0.01	0.19	C		ppm by vol
Toluene	000	0%	00108-88-3	<0.01	<0.01	<0.01	0.01	C		ppm by vol
										ppm by vol

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Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)
4-95	Surge Tank
Tempo Subject Item ID No.	
EQT0203	

Approximate Location of Stack or Vent (see instructions)

Method: 06,"Address Matching-Primary Name" Datum: NAD83

UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN

Latitude: 30 ° 3 ' 15 " ____ hundredths

Longitude: -90 ° 31 ' 15 " ____ hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	NA ft / ____ ft^2	NA ft	NA ft/sec	NA ft^3/min	77 °F	8,760 hr/yr	Sept 1995	25%	25%	25%	25%

Fuel — Type of Fuel Used and Heat Input (see instructions)

	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	27,000 gal/hr	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	660,000 gal	Open tank WWT treatment
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered: ____ Engine Model Year: ____

Date Engine Was Built by Manufacturer: ____

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 4-95 / Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Proposed Emission Rates: Maximum (lbs/hr)	Proposed Emission Rates: Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		0.52	2.36	2.29	2.11	U		ppm by vol
Lead										ppm by vol
Chloroprene	000	0%	00126-99-8	0.5	2.14	2.17	1.99	U		ppm by vol
Toluene	000	0%	00108-88-3	0.01	0.1	0.06	0.06	U		ppm by vol
										ppm by vol

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Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
5-95	Aeration Tank	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: EQT0204		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	NA ft / ft²	NA ft	NA ft/sec	NA ft^3/min	77 °F	8,760 hr/yr	Sept 1995	25%	25%	25%	25%

Fuel — Type of Fuel Used and Heat Input (see instructions)

	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	27,000 gal/hr	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	660,000 gal	Open tank WWT treatment
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered | Engine Model Year

Date Engine Was Built by Manufacturer

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 5-95 / Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Permitted Emission Rate (Current) Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		<0.01	0.03	0.02	0.02	U		ppm by vol
Lead										ppm by vol
Chloroprene	000	0%	00126-99-8	<0.01	0.02	0.02	0.02	U		ppm by vol
Toluene	000	0%	00108-88-3	<0.01	<0.01	<0.01	<0.01	U		ppm by vol
										ppm by vol

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Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
1700-83	ACR Drumming Vent	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: RLP0019		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	NA ft / ft²	NA ft	NA ft/sec	NA ft^3/min	NA °F	8,760 hr/yr	Sept 2007	25%	25%	25%	25%

Type of Fuel Used and Heat Input (see instructions)

Fuel	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

These emissions are from an open shed which is equipped with a ventilation fan to minimize employee exposure.

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	2,000 drums/yr	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	NA	
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered | Engine Model Year

Date Engine Was Built by Manufacturer

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1700-83 / Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Proposed Emission Rates: Maximum (lbs/hr)	Proposed Emission Rates: Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		0.20	0.35	0.020	0.340	C		ppm by vol
Lead										ppm by vol
Tetrachloroethylene	000	0%	00127-18-4	0.04	0.08	0.01	0.01	U		ppm by vol
Xylene (mixed isomers)	000	0%	01330-20-7	0.003	0.02	0.001	0.001	U		ppm by vol
Dichloromethane	000	0%	00075-09-2	0.10	1.44	0.02	0.02	U		ppm by vol

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Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
1700-84A	Advance Fibres System (AFS) Emulsion Shipping (Emulsion Blend Tank)	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
EQT0212		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	NA ft / ft²	NA ft	NA ft/sec	NA ft^3/min	NA °F	8,760 hr/yr	2008	25%	25%	25%	25%

Fuel — Type of Fuel Used and Heat Input (see instructions)

	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput		
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	NA	
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered | Engine Model Year

Date Engine Was Built by Manufacturer

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1700-84A	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates			Permitted Emission Rate (Current)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Pollutant				Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Annual (tons/yr)			
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		<0.01	<0.01	<0.01	<0.01	U		ppm by vol
Lead										ppm by vol
Chloroprene	000	0%	00126-99-8	<0.01	<0.01	<0.01	<0.01	U		ppm by vol
Toluene	000	0%	00108-88-3	<0.01	<0.01	<0.01	<0.01	U		ppm by vol
										ppm by vol

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Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
1700-84B	Advance Fibres System (AFS) Emulsion Shipping (Tote Loading)	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: EQT0213		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	NA ft / ft²	NA ft	NA ft/sec	NA ft^3/min	NA °F	8,760 hr/yr	2008	25%	25%	25%	25%

Type of Fuel Used and Heat Input (see instructions)

Fuel	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput		
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	NA	
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered: | Engine Model Year:

Date Engine Was Built by Manufacturer:

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1700-84B / Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Proposed Emission Rates: Maximum (lbs/hr)	Proposed Emission Rates: Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		<0.01	<0.01	<0.01	<0.01	U		ppm by vol
Lead										ppm by vol
Chloroprene	000	0%	00126-99-8	<0.01	<0.01	<0.01	<0.01	U		ppm by vol
Toluene	000	0%	00108-88-3	<0.01	<0.01	<0.01	<0.01	U		ppm by vol
										ppm by vol

State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal: Nov | 2013

Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
1700-85	Liquid Dispersion Loading (Truck, Tote, Railcar Loading)	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: EQT0214		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	NA ft / ft²	NA ft	NA ft/sec	NA ft^3/min	NA °F	8,760 hr/yr	2008	25%	25%	25%	25%

Type of Fuel Used and Heat Input (see instructions)

Fuel	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	NA	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	NA	
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered | Engine Model Year

Date Engine Was Built by Manufacturer

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1700-85 / Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Proposed Emission Rates: Maximum (lbs/hr)	Proposed Emission Rates: Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		0.003	0.003	0.01	0.01	U		ppm by vol
Lead										ppm by vol
Chloroprene	000	0%	00126-99-8	0.003	0.003	0.01	0.01	U		ppm by vol
Toluene	000	0%	00108-88-3	<0.001	<0.001	<0.001	<0.001	U		ppm by vol
										ppm by vol

State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal: Nov | 2013

Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
1-93	Fugitive Emissions - Neoprene Unit	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: FUG0004		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	NA ft / ft²	NA ft	NA ft/sec	NA ft^3/min	NA °F	8,760 hr/yr		25%	25%	25%	25%

Fuel — Type of Fuel Used and Heat Input (see instructions)

	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	NA	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	NA	
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered: | Engine Model Year:

Date Engine Was Built by Manufacturer:

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1-93 / Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Permitted Emission Rate (Current) Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		0.57	0.57	2.23	2.23	U		ppm by vol
Lead										ppm by vol
Chloroprene	000	0%	00126-99-8	0.37	0.37	1.60	1.60	U		ppm by vol
Toluene	000	0%	00108-88-3	0.05	0.05	0.22	0.22	U		ppm by vol
Xylene (mixed isomers)	000	0%	01330-20-7	<0.01	<0.01	0.02	0.02	U		ppm by vol

Emission Point ID No. (Designation) 1-93 Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates			Permitted Emission Rate (Current)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
				Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Annual (tons/yr)			
Dichloromethane			00075-09-2	<0.01	<0.01	0.02	0.02	U		ppm by vol
Tetrachloroethylene			00127-18-4	<0.01	<0.01	0.02	0.02	U		ppm by vol

State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal: Nov 2013

Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
6-95	Clarifier	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: EQT		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	NA ft / ft²	NA ft	NA ft/sec	NA ft^3/min	77 °F	8,760 hr/yr	Sept 1995	25%	25%	25%	25%

Fuel — Type of Fuel Used and Heat Input (see instructions)

	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	27,000 gal/hr	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	125,000 gal	Open tank WWT treatment
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered: | Engine Model Year:

Date Engine Was Built by Manufacturer:

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 6-95 / Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Proposed Emission Rates: Maximum (lbs/hr)	Proposed Emission Rates: Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		<0.01	<0.01	<0.01		A		ppm by vol
Lead										ppm by vol
Chloroprene	000	0%	00126-99-8	<0.01	<0.01	<0.01		A		ppm by vol
Toluene	000	0%	00108-88-3	<0.01	<0.01	<0.01		A		ppm by vol
										ppm by vol

State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal: Nov | 2013

Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
1700-87	No. 10 Emulsion Storage Tank Manway	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: EQT0		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	0.167 ft ft^2	55 ft	60.00 ft/sec	750 ft^3/min	77 °F	81 hr/yr	2013	25%	25%	25%	25%

Fuel — Type of Fuel Used and Heat Input (see instructions)

	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	42,000 lb/charge	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	NA	
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered | Engine Model Year

Date Engine Was Built by Manufacturer

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1700-87 Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		30.25	4097	1.23		A		ppm by vol
Lead										ppm by vol
Chloroprene	000	0%	00126-99-8	20.57	2527	0.83		A		ppm by vol
Toluene	000	0%	00108-88-3	3.22	785	0.13		A		ppm by vol
										ppm by vol

State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal: Nov | 2013

Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
1700-88	No. 13 Emulsion Storage Tank Manway	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: EQT0		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	0.167 ft / ft²	55 ft	60.00 ft/sec	750 ft^3/min	77 °F	26 hr/yr	2013	25%	25%	25%	25%

Fuel — Type of Fuel Used and Heat Input (see instructions)

	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	42,000 lb/charge	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	NA	
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered: | Engine Model Year:

Date Engine Was Built by Manufacturer:

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1700-88 / Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Proposed Emission Rates: Maximum (lbs/hr)	Proposed Emission Rates: Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		46.41	4097	0.60		A		ppm by vol
Lead										ppm by vol
Chloroprene	000	0%	00126-99-8	40	2527	0.52		A		ppm by vol
Toluene	000	0%	00108-88-3	2.14	785	0.028		A		ppm by vol
										ppm by vol

State of Louisiana
Emissions Inventory Questionnaire (EIQ) for Air Pollutants

Date of submittal: Nov | 2013

Emission Point ID No. (Designation)	Descriptive Name of the Emissions Source (Alt. Name)	Approximate Location of Stack or Vent (see instructions)
1700-89	No. 14 Emulsion Storage Tank Manway	Method: 06,"Address Matching-Primary Name" Datum: NAD83
Tempo Subject Item ID No.: EQT0		UTM Zone: 15 Horizontal: 739000 mE Vertical: 3327400 mN
		Latitude: 30 ° 3 ' 15 " hundredths
		Longitude: -90 ° 31 ' 15 " hundredths

Stack and Discharge Physical Characteristics Change? (yes or no)	Diameter (ft) or Stack Discharge Area (ft^2)	Height of Stack Above Grade (ft)	Stack Gas Exit Velocity	Stack Gas Flow at Conditions, not at Standard (ft^3/min)	Stack Gas Exit Temperature (°F)	Normal Operating Time (hours per year)	Date of Construction or Modification	Percent of Annual Throughput Through This Emission Point			
								Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
no	0.167 ft / ft²	55 ft	60.00 ft/sec	750 ft^3/min	77 °F	26 hr/yr	2013	25%	25%	25%	25%

Fuel — Type of Fuel Used and Heat Input (see instructions)

	Type of Fuel	Heat Input (MMBTU/hr)
a	NA	NA
b		
c		

Notes

Operating Parameters (include units)

	Parameter	Description
Normal Operating Rate/Throughput	42,000 lb/charge	
Maximum Operating Rate/Throughput	NA	
Design Capacity/Volume/Cylinder Displacement	NA	
Shell Height (ft)	NA	
Tank Diameter (ft)	NA	

Tanks: ☐ Fixed Roof ☐ Floating Roof ☐ External ☐ Internal

Date Engine Ordered: | Engine Model Year:

Date Engine Was Built by Manufacturer:

SI Engines: ☐ Rich Burn ☐ Lean Burn ☐ 2 Stroke ☐ 4 Stroke

Emission Point ID No. (Designation): 1700-89 / Pollutant	Control Equipment Code	Control Equipment Efficiency	HAP / TAP CAS Number	Proposed Emission Rates: Average (lb/hr)	Maximum (lbs/hr)	Annual (tons/yr)	Permitted Emission Rate (Current): Annual (tons/yr)	Add, Change, Delete, or Unchanged	Continuous Compliance Method	Concentration in Gases Exiting at Stack
Particulate matter (PM_{10})										gr/std ft^3
Sulfur dioxide										ppm by vol
Nitrogen oxides										ppm by vol
Carbon monoxide										ppm by vol
Total VOC (including those listed below)	000	0%		46.41	4097	0.60		A		ppm by vol
Lead										ppm by vol
Chloroprene	000	0%	00126-99-8	40	2527	0.52		A		ppm by vol
Toluene	000	0%	00108-88-3	2.14	785	0.028		A		ppm by vol
										ppm by vol

24. NSR Applicability Summary [LAC 33:III.504 and LAC 33:III.509] ☒ N/A

This section consists of five tables, A-E, and is applicable only to new and existing major stationary sources (as defined in LAC 33:III.504 or in LAC 33:III.509) proposing to permit a physical change or change in the method of operation. It would also apply to existing minor stationary sources proposing a physical change or change in the method of operation where the change would be a major source in and of itself. Add rows to each table as necessary. Provide a written explanation of the information summarized in these tables. Consult instructions.

24.A. Project Summary

		A	B	C	D	E	F
Emission Point ID	**Description**	**New, Modified, Affected, or Unaffected***	**Pre-Project Allowables (TPY)**	**Baseline Actual Emissions (over 24-month period)**	**Projected Actual Emissions (TPY)**	**Post-Project Potential to Emit (TPY)**	**Change**
$PM_{2.5}$	**24-Month Period:** MM/DD/YYYY – MM/DD/YYYY						
						$PM_{2.5}$ Change:	
PM_{10}	**24-Month Period:** MM/DD/YYYY – MM/DD/YYYY						
						PM_{10} Change:	
SO_2	**24-Month Period:** MM/DD/YYYY – MM/DD/YYYY						
						SO_2 Change:	
NO_X	**24-Month Period:** MM/DD/YYYY – MM/DD/YYYY						
						NO_X Change:	
CO	**24-Month Period:** MM/DD/YYYY – MM/DD/YYYY						

						CO Change:	

VOC	**24-Month Period:** MM/DD/YYYY – MM/DD/YYYY						
						VOC Change:	

CO_2e	**24-Month Period:** MM/DD/YYYY – MM/DD/YYYY						
						CO_2e Change:	

* Unaffected emissions units are not required to be listed individually. By choosing not to list unaffected emissions units, the applicant asserts that all emissions units not listed in Table 24.A will not be modified or experience an increase in actual annual emissions as part of the proposed project.

24.B. Creditable Contemporaneous Changes

Contemporaneous Period: MM/DD/YYYY – MM/DD/YYYY	

		A	B	C	D	E	F
Emission Point ID	**Description**	**Date of Modification**	**Pre-Project Allowables (TPY)**	**Baseline Actual Emissions (over 24-month period)**	**24-Month Period**	**Post-Project Potential to Emit (TPY)**	**Change**
$PM_{2.5}$							
						$PM_{2.5}$ Change:	
PM_{10}							
						PM_{10} Change:	
SO_2							

24.B. Creditable Contemporaneous Changes

						SO_2 Change:	
NO_X							
						NO_X Change:	
CO							
						CO Change:	
VOC							
						VOC Change:	
CO_2e							
						CO_2e Change:	

For each source identified as "New" or "Modified" in Section 24.A, complete the following table for each pollutant that will trigger NSR. If LAER is not required per LAC 33:III.504.D.3, indicate such.

24.C. BACT/LAER Summary

Emission Point ID	Pollutant	BACT/LAER	Limitation	Averaging Period	Description of Control Technology/Work Practice Standard(s)

24.D. PSD Air Quality Analyses Summary

		A	B	C	D	E	F	G	H	I
Pollutant	Averaging Period	Preliminary Screening Concentration ($\mu g/m^3$)	Level of Significant Impact ($\mu g/m^3$)	Significant Monitoring Concentration ($\mu g/m^3$)	Background ($\mu g/m^3$)	Maximum Modeled Concentration ($\mu g/m^3$)	Modeled + Background Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Modeled PSD Increment Consumption ($\mu g/m^3$)	Allowable Class II PSD Increment ($\mu g/m^3$)
$PM_{2.5}$	24-hour		1.2	4				35		-
	Annual		0.3	-				15		-
PM_{10}	24-hour		5	10				150		30
	Annual		1	-				50		17
SO_2	1-hour		7.8	-				195		-
	3-hour		25	-				1300		512
	24-hour		5	13				365		91
	Annual		1	-				80		20
NO_X	1-hour		7.5	-				188		-
	Annual		1	14				100		25
CO	1-hour		2000	-				40,000	-	-
	8-hour		500	575				10,000	-	-
Lead	3-month		-	0.1				1.5	-	-

24.E Nonattainment New Source Review Offsets [LAC 33:III.517.D.16, LAC 33:III.504.D.4 & 5] ☒ N/A

Complete this section only if the proposed project triggers Nonattainment New Source Review (NNSR).

This project triggers NNSR review for: ☐ NO_X ☐ VOC

NO_X:

Is the applicant proposing to use internal offsets? ☐ Yes ☐ No

If not, identify the source of the offsets. **Company:** ____

Facility/Unit: ____

Permit No.: ____

Is an ERC Bank Application included with this application, or has an application already been submitted to LDEQ?
☐ Yes ☐ No

If the ERC application has already been submitted, give the date: ____

Identify the emissions units from which the offsets will be obtained (reference specific Emission Point ID numbers).

VOC:

Is the applicant proposing to use internal offsets? ☐ Yes ☐ No

If not, identify the source of the offsets. **Company:** ____

Facility/Unit: ____

Permit No.: ____

Is an ERC Bank Application included with this application, or has an application already been submitted to LDEQ?
☐ Yes ☐ No

If the ERC application has already been submitted, give the date: ____

Identify the emissions units from which the offsets will be obtained (reference specific Emission Point ID numbers).

In order to expedite processing, please be sure the ERC Bank Application is completed properly. In the case of NO_X, the document should clearly differentiate between ozone season and non-ozone season actual emissions during the baseline period. Regarding NO_X and VOC, be sure to indicate if a portion of the reductions are no longer surplus (e.g., due to new or revised federal or state regulations, use in a netting analysis, etc.).

24.F. Economic Impact

Answer the following questions.

How many temporary jobs will be added as a result of this project? _____

How many permanent jobs will be added as a result of this project? _____

24.G Notification of Federal Land Manager [LAC 33:III.504.E.1, LAC 33:III.509.P.1]
Complete this section only if the proposed project triggers NNSR or PSD.

a. Is the proposed facility or modification located within 100 kilometers of a Class I Area? ☐ Yes ☒ No
If Yes, determination of Q/d is not required; skip to the next question. If No, complete the Q/d equation below:

$$Q/d = \frac{PM_{10\,(NEI)} + SO_{2\,(NEI)} + NO_{X\,(NEI)} + H_2SO_{4\,(NEI)}}{\text{Class I km}}$$

where:
$PM_{10\,(NEI)}$ = net emissions increase of PM_{10}[1,2]
$SO_{2\,(NEI)}$ = net emissions increase of SO_2[1,2]
$NO_{X\,(NEI)}$ = net emissions increase of NO_X[1,2]
$H_2SO_{4\,(NEI)}$ = net emissions increase of H_2SO_4[1,2]
Class I km = distance to nearest Class I Area[3]

$$Q/d = \frac{\_\_\_\_ + \_\_\_\_ + \_\_\_\_ + \_\_\_\_}{\_\_\_\_} = \_\_\_\_$$

If Q/d < 10, proceed to Section 25. If Q/d ≥ 10, complete the remainder of this Section.

b. Has the applicant provided a copy of the application to the Federal Land Manager? ☐ Yes ☐ No

c. Does the application contain modeling that demonstrates no adverse impact on Air Quality Related Values (AQRVs) in the Class I Area? ☐ Yes ☐ No

d. If Yes, indicate the model used: ☐ VISCREEN ☐ PLUVUE II ☐ CALPUFF ☐ Other:[4] _____

e. Has the Federal Land Manager concurred that the proposed project will not adversely impact any AQRVs?
☐ Yes ☐ No If Yes, please attach correspondence.

[1]If the net emissions increase of any pollutant is negative, enter "0."
[2]If the project did not trigger a netting analysis, use the project increase. In this case, the value will be less than the pollutant's significance level.
[3]In kilometers.
[4]Model must be approved by LDEQ and the Federal Land Manager.

25. Environmental Assessment Statement (EAS or "IT" Question Responses)

[La. R.S. 30:2018] ☐ Yes ☒ No

*** This section is required when applying for new Part 70 operating permits and/or major modifications. Any applications for these permit types that do not include answers to these questions will not be considered to be administratively complete. ***

For new Part 70 operating permits and/or major modifications, answers to these questions must be provided by the applicant to the local governmental authority and the designated public library at no additional costs to these entities. Consult instructions to determine what is considered to be a "local governmental authority" and a "designated public library". Indicate the name and address of the local governmental authority and the designated public library to which the answers to these questions were sent:

Name of Local Governing Authority			Name of Designated Public Library		
Street or P.O. Box			Street or P.O. Box		
City	State	ZIP	City	State	ZIP

Answer the following five questions on separate pages using full and complete answers. Include as many pages as necessary in order to provide full and complete answers. This information is required per Louisiana Revised Statutes 30:2018 (La. R.S. 30:2018).

Question 1: **Have the potential and real adverse environmental effects of the proposed facility been avoided to the maximum extent possible?** (This question requires the permittee to identify adverse environmental effects, both potential and real.)

Question 2: **Does a cost benefit analysis of the environmental impact costs balanced against the social and economic benefits of the proposed facility demonstrate that the latter outweighs the former?** (This question requires the permittee to perform a cost-benefit analysis, or at least a quantitative indication of the economic benefits and a qualitative description of the negative impacts expected from the permittee's operation. The latter should come from the answer to Question 1.)

Question 3: **Are there alternative projects which would offer more protection to the environment than the proposed facility without unduly curtailing non-environmental benefits?** (This question requires the permittee to demonstrate having considered alternate technologies.)

Question 4: **Are there alternative sites which would offer more protection to the environment than the proposed facility site without unduly curtailing non-environmental benefits?** (This is the question that deals directly with siting criteria.)

Question 5: **Are there mitigating measures which would offer more protection to the environment than the facility as proposed without unduly curtailing non-environmental benefits?** (This question requires the permittee to demonstrate having considered the most stringent techniques for reducing or more efficiently handling waste.)

PART 70 OPERATING PERMIT APPLICATION COMPLETENESS CHECKLIST

Instructions: Complete this checklist and submit with the completed air permit application.

LAC 33:III.	Completeness Questions Relative to the Part 70 Permit Application	Yes	No	NA	Location Within the Permit Application
517.A Timely Submittal	Was a Copy of the Application Also Submitted to EPA?	X			Under Separate Cover
517.B.1,2 Certification	Does the Application include a Certification by a Responsible Official?	X			Item 10 Section 3
517.B.3 Certification	Does the Application Include Certification by a Professional Engineer or their Designee:	X			Item 10 Section 3
517.D.1 Identifying Information	Does the Application Include:				
	1. Company Name, Physical and Mailing Address of Facility?	X			Items 1 & 2 Section 3
	2. Map showing Location of the Facility?	X			Figure 1
	3. Owner and Operator Names and Agent?	X			Item 1 Section 3
	4. Name and Telephone Number of Plant Manager or Contact?	X			Item 11 Section 3
517.D.2 SIC Codes, Source Categories	Does the Application Include a Description of the Source's Processes and Products?	X			Item 2 Section 3
	Does the Application Include the Source's SIC Code?	X			Item 5 Section 3
	Does the Application Include EPA Source Category of HAPs if applicable?	X			Section 3
517.D.3,6 EIQ Sheets	Has an EIQ Sheet been Completed for each Emission Point whether an Area or Point Source?	X			Item 23 Section 3
517.D.4 Monitoring Devices	Does the Application Include Identification and Description of Compliance Monitoring Devices or Activities?	X			Item 22 Section 3
517.D.5 Revisions and Modifications Only	For Revisions or Modifications, Does the Application include a Description of the Proposed Change and any Resulting Change in Emissions?	X			Section 1 & Item 1, Section 3
517.D.7 General Information	Does the Application Include Information Regarding Fuels, Fuel Use, Raw Materials, Production Rates, and Operating Schedules as necessary to substantiate emission rates?	X			Item 23 Section 3
517 D.8 Operating Limitations	Has Information Regarding any *Limitations on Source Operation* or any Applicable Work Practice Standards been Identified?	X			Item 22 Section 3
517.D.9 Calculations	Are Emission Calculations Provided?	X			Appendix A

LAC 33:III.	Completeness Questions Relative to the Part 70 Permit Application	Yes	No	NA	Location Within the Permit Application
517.D.10 Regulatory Review	Does the Application Include a Citation and Description of Applicable Louisiana and Federal Air Quality Requirements and Standards?	X			Item 22 Section 3
517.D.11 Test Methods	Has a Description of or a Reference to Applicable Test Methods Used to Determine Compliance with Standards been Provided?	X			Item 22 Section 3
517.D.12 Major Sources of TAPs	Does the Application include Information Regarding the Compliance History of Sources Owned or Operated by the Applicant (per LAC 33.III.5111)?	X			Item 14a Section 3
517.D.13 Major Sources of TAPs	Does the Application include a Demonstration to show that the Source Meets all Applicable MACT and Ambient Air Standard Requirements?	X			Section 2
517.D.14 PSD Sources Only	If Required by DEQ, Does the Application Include Information Regarding the Ambient Air Impact for Criteria Pollutants as Required for the Source Impact Analysis per LAC 33:III.509.K, L, and M?			X	
517 D.15 PSD Sources Only	If Required by DEQ, Does the Application Include a Detailed Ambient Air Analysis?			X	
517.D.16, 18	Has any Additional Information been Provided?		X		
517.D.17 Fees	Has the Fee Code been Identified?	X			Item 5 Section 2
	Is the Applicable Fee Included with the Application?			X	
517.E.1 Additional Part 70 Requirements	Does the Certification Statement Include a Description of the Compliance Status of Each Emission Point in the Source with All Applicable Requirements?	X			Item 10 Section 3
517E.2 Additional Part 70 Requirements	Does the Certification Statement Include a Statement that the Source will continue to Comply with All Applicable Requirements with which the Source is in Compliance?	X			Item 10 Section 3
517.E.3 Additional Part 70 Requirements	Does the Certification Statement Include a Statement that the Source will, on a timely basis, meet All Applicable Requirements that will Become Effective During the Permit Term?	X			Item 10 Section 3
517.E.4 Additional Part 70 Requirements	Are there Applicable Requirements for which the Source is not in Compliance at the Time of Submittal?		X		
	Does the Application include a Compliance Plan Schedule?			X	
	Does the Schedule Include Milestone Dates for which Significant Actions will occur?			X	
	Does the Schedule Include Submittal Dates for Certified Progress Reports?			X	

LAC 33:III.	Completeness Questions Relative to the Part 70 Permit Application	Yes	No	NA	Location Within the Permit Application
517.E.5 Additional Part 70 Requirements Acid Rain	Is this Source Covered by the Federal Acid Rain Program?		X		
	Are the Requirements of LAC 33.III.517.E 1-4 included in the Acid Rain Portion of the Compliance Plan?			X	
517.E.6 Additional Part 70 Requirements	Have any Exemptions from any Applicable Requirements been Requested?		X		
	Is the List and explanations Provided?			X	
517.E.7 Additional Part 70 Requirements	Does the Application Include a Request for a Permit Shield?		X		
	Does the Request List those Federally Applicable Requirements for which the Shield is Requested along with the Corresponding Draft Permit Terms and conditions which are Proposed to Maintain Compliance?			X	
517.E.8 Additional Part 70 Requirements	Does the Application Identify and Reasonably Anticipated Alternative Operating Scenarios?		X		
	Does the Application include Sufficient Information to Develop permit Terms and Conditions for Each Scenario, Including Source Process and Emissions Data?			X	
517.F Confidentiality	Does the Application Include a Request for Non-Disclosure (Confidentiality)?		X		
525.B. Minor Permit Modifications	Does the Application Include a Listing of New Requirements Resulting for the Change?		X		
	Does the Application Include Certification by the Responsible Official that the Proposed Action Fits the Definition of a Minor Modification as per LAC 33:III.525.A.		X		
	Does the Certification also Request that Minor Modification Procedures be Used?		X		
	Does the Application, for Part 70 Sources, Include the Owner's Suggested Draft Permit and Completed Forms for the Permitting Authority to Use to Notify Affected States?		X		
La. R.S. 30:2018 – PSD/NNSR only	Has a copy of the answers to the questions posed in the Environmental Assessment Statement (Section 25) been sent to the local governing authority at no cost to the local governing authority?			X	
	Has a copy of the answers to the questions posed in the Environmental Assessment Statement (Section 25) been sent to the designated public library at no cost to the designated public library?			X	

FIGURES

FIGURE 1

SITE LOCATION MAP

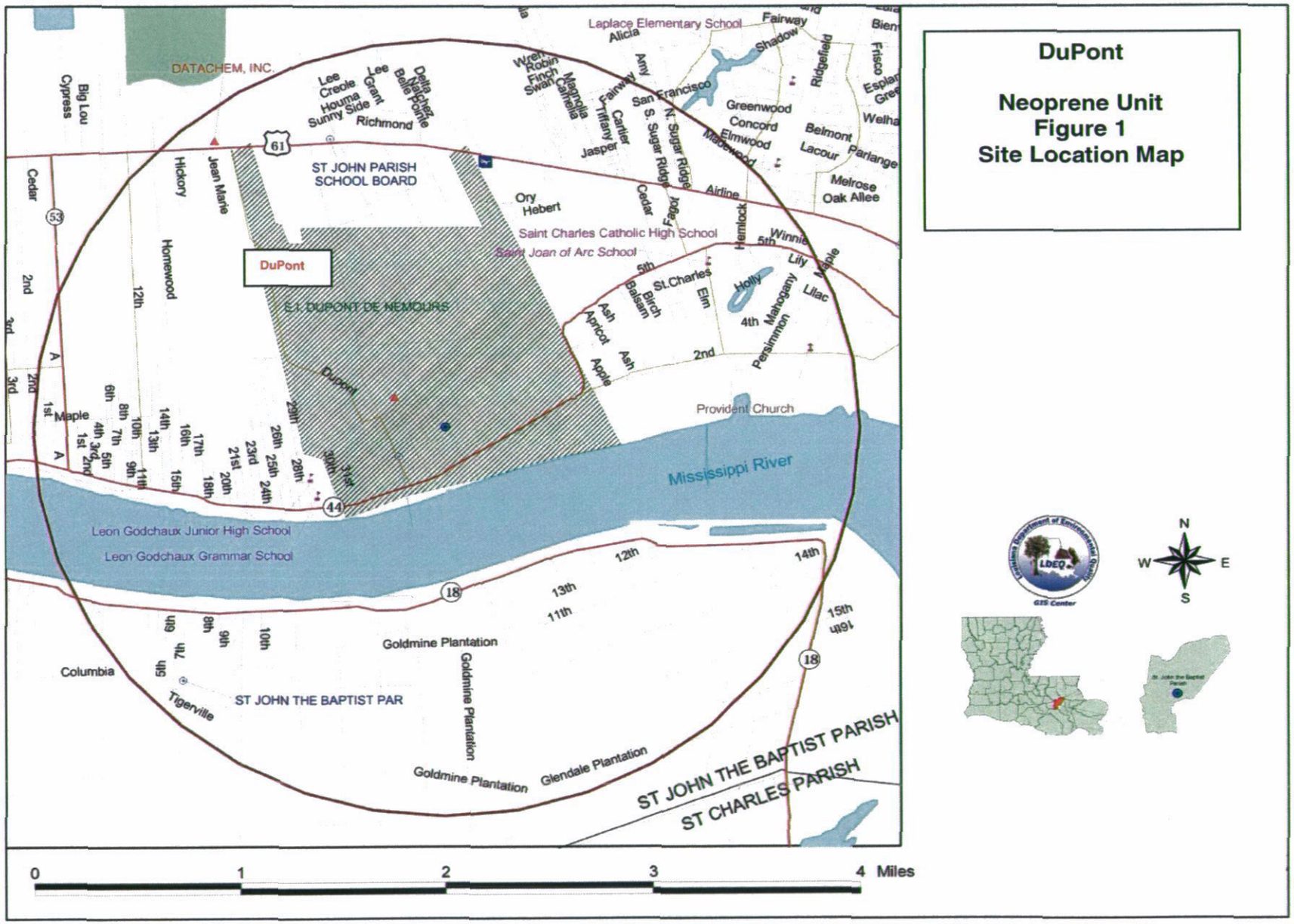
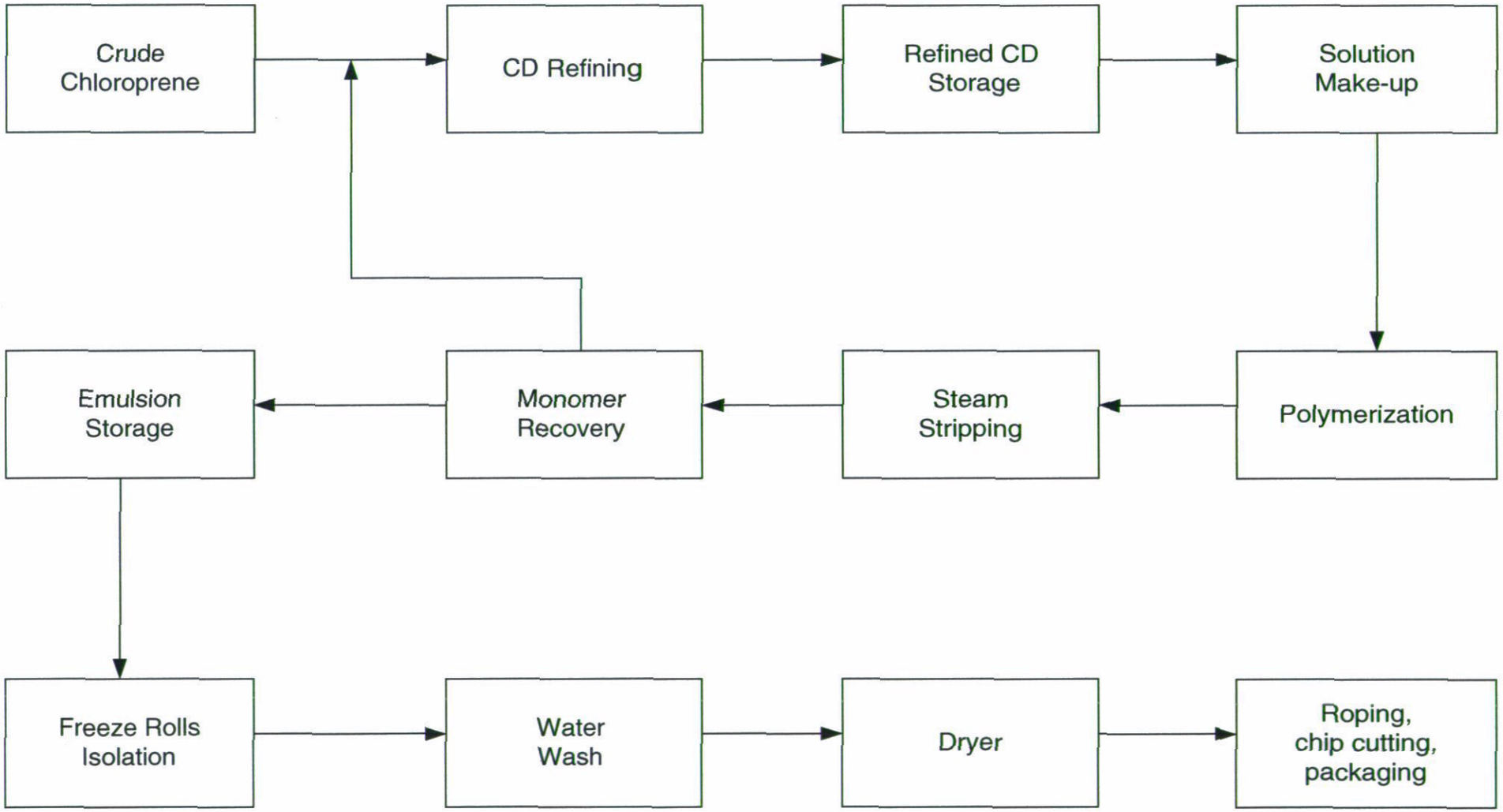

DuPont
Neoprene Unit
Figure 1
Site Location Map
DATACHEM, INC.
ST JOHN PARISH SCHOOL BOARD
DuPont
E.I. DUPONT DE NEMOURS
Laplace Elementary School
Saint Charles Catholic High School
Saint Joan of Arc School
Provident Church
Mississippi River
Leon Godchaux Junior High School
Leon Godchaux Grammar School
Goldmine Plantation
Glendale Plantation
Columbia
Tigerville
ST JOHN THE BAPTIST PAR
ST JOHN THE BAPTIST PARISH
ST CHARLES PARISH
Richmond
Airline
Cedar
Homewood
Maple
Ash
Apple
Apricot
Birch
Balsam
Elm
Holly
Mahogany
Persimmon
Lilac
Lily
Hemlock
Elmwood
Greenwood
Concord
Belmont
Lacour
Melrose
Oak Allee
Fairway
Shadow
Ridgefield
Tiffany
Jasper
Carter
Amy
Alicia
Wren
Robin
Finch
Swan
Magnolia
Camelia
Lee
Creole
Houma
Sunny Side
Grant
Delta
Belle Pointe
Big Lou
Cypress
Hickory
Jean Marie
61
53
44
18
0
1
2
3
4 Miles
N
S
E
W

FIGURE 2

NEOPRENE UNIT PROCESS FLOW DIAGRAM

FIGURE 2
NEOPRENE UNIT PROCESS FLOW DIAGRAM



APPENDICES

APPENDIX A

AIR EMISSION CALCULATIONS

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT- PONTCHARTRAIN SITE
Source Description: No. 7 & 8 ESTs' Manway and EST 13 & 14 Strainer Exhaust Blower
TEMPO ID: EQT0134
Point Source ID No.: 1700-1 *Page* 1 *of* 4

Basis:

The unstripped emulsion tank is vented down to atmospheric pressure and the nitrogen blanket which enters the top of the tank is turned off before opening the manway.
Emissions from the open manway and the agitator shaft seals are captured by the shaft seal ventilation system.
Emissions are based on spot sampling data conducted in September-October 2002 which showed an average chloroprene (CD) concentration of 16.3 ppm with a maximum concentration of 47 ppm.
The maximum concentration is estimated to be 10% greater than the maximum measured concentration.
Toluene and other VOC emissions are estimated using the fraction of saturation of CD.
Conservatively assume ACR is still present in the material.
Based on field observation and engineering judgement, emissions from EST 13 & 14 drop strainer are insignificant.
Calculation basis provided by Mr. P. Offut, DuPont

Rated Capacity of Blower =	2500	cfm
Amount of Time Discharging =	8760	hours/yr
Average CD in Air Exhausted =	16.3	ppm CD by volume
Maximum CD in Air Exhausted =	51.7	ppm CD by volume
Molecular Weight of CD =	88.54	lb/lb-mole
Molecular Weight of Toluene =	92.14	lb/lb-mole
Molecular Weight of ACR =	122.99	lb/lb-mole
Temperature =	25	°C
Pressure =	*14.696*	*psia*

Average Emission Rates

Chloroprene

Using given information,

Average CD Emissions = 0.0408 cfm CD

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT- PONTCHARTRAIN SITE
Source Description: No. 7 & 8 ESTs' Manway and EST 13 & 14 Strainer Exhaust Blower
TEMPO ID: EQT0134
Point Source ID No.: 1700-1 *Page* 2 *of* 4

Using the Ideal Gas Law,

Average CD Emissions =	0.000104	moles CD/minute
Average CD Emissions =	0.009221	lbs CD/minute
Average CD Emissions =	0.553	lbs CD/hour
Average CD Emissions =	4847	lbs/yr
Average CD Emissions =	2.42	tons/yr

Toluene

Using the Ideal Gas Law,

V.P. of CD at Saturation =	189.00	mm Hg
Total Vapor =	0.002550	moles/ft3
Mole Fraction CD =	0.001633333	%
CD Vapor =	0.00000004	moles/ft3
CD Partial Pressure =	0.012	mm Hg
Ratio =	0.000066	
V.P. of Toluene at Saturation =	28.40	mm Hg
Toluene Partial Pressure =	0.0019	mm Hg
Toluene Vapor =	0.000000006	moles/ft3
Toluene Vapor =	0.00002	moles/min
Toluene Vapor =	0.001	lb/min
Toluene Vapor =	0.09	lb/hr
Toluene Vapor =	0.38	tpy

ACR

Ratio =	0.000066	
V.P. of ACR at Saturation =	42.28	mm Hg
ACR Partial Pressure =	0.0028	mm Hg
ACR Vapor =	0.00000001	moles/ft3
ACR Vapor =	0.00002	moles/min
ACR Vapor =	0.0029	lb/min
ACR Vapor =	0.17	lb/hr
ACR Vapor =	0.75	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT- PONTCHARTRAIN SITE
Source Description: No. 7 & 8 ESTs' Manway and EST 13 & 14 Strainer Exhaust Blower
TEMPO ID: EQT0134
Point Source ID No.: 1700-1 *Page* 3 *of* 4

Maximum Emission Rates

Chloroprene

Using given information,

Maximum CD Emissions =	0.1293	cfm CD

Using the Ideal Gas Law,

Maximum CD Emissions =	0.000330	moles CD/minute
Maximum CD Emissions =	0.029187	lbs CD/minute
Maximum CD Emissions =	1.751	lbs CD/hour

Toluene

Using the Ideal Gas Law,

V.P. of CD at Saturation =	189.00	mm Hg
Total Vapor =	0.002550	moles/ft3
Mole Fraction CD =	0.00517	%
CD Vapor =	0.00000013	moles/ft3
CD Partial Pressure =	0.039	mm Hg
Ratio =	0.000208	
V.P. of Toluene at Saturation =	28.40	mm Hg
Toluene Partial Pressure =	0.0059	mm Hg
Toluene Vapor =	0.00000002	moles/ft3
Toluene Vapor =	0.00005	moles/min
Toluene Vapor =	0.0046	lb/min
Toluene Vapor =	0.27	lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT- PONTCHARTRAIN SITE
Source Description: No. 7 & 8 ESTs' Manway and EST 13 & 14 Strainer Exhaust Blower
TEMPO ID: EQT0134
Point Source ID No.: 1700-1 *Page* 4 *of* 4

ACR

Ratio =	0.000208	
V.P. of ACR at Saturation =	42.28	mm Hg
ACR Partial Pressure =	0.0088	mm Hg
ACR Vapor =	0.00000003	moles/ft3
ACR Vapor =	0.00007	moles/min
ACR Vapor =	0.0091	lb/min
ACR Vapor =	0.54	lb/hr

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	7110	0.812	2.569	3.555
Chloroprene	4847	0.553	1.751	2.423
Toluene	758	0.087	0.274	0.379
Total HAPs	5605	0.640	2.025	2.802
Total TAPs	5605	0.640	2.025	2.802

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Strippers Condenser Vent
TEMPO ID: RLP0014
Point Source ID No.: 1700-2 *Page* 1 *of* 4

Basis:
Vapors from all three strippers pass through a vacuum pump to a single vent condenser cooled with -20 deg C brine.

Nitrogen flow is based on sampling data conducted by METCO on March 13, 2002 and March 19, 2002.
Toluene emissions are estimated using the partial pressure of toluene produced in the unstripped emulsion.
Ammonia is added to the inlet of the condenser as an antifreeze and is emitted.
Calculation basis provided by Mr. P. Offut, DuPont
1,2-Dichlorobenzene emissions are based on a mass balance.

Condenser Feed Temperature =	2	C
Condenser Exit Temperature =	-14	C
Vapor Pressure of CD =	27.094	mm Hg @ -14 C
Vapor Pressure of Toluene =	2.566	mm Hg @ -14 C
Vapor Pressure of Toluene =	42.427	mm Hg @ 30 C
Vapor Pressure of ACR =	5.203	mm Hg @ -14 C
Vapor Pressure of ACR =	60.824	mm Hg @ 30 C
Molecular Weight of Toluene =	92.14	lb/lb-mole
Max. Mole Fraction Toluene =	0.00398	
Molecular Weight of ACR =	122.99	lb/lb-mole
Max. Mole Fraction ACR =	0.000970	
Operating Hours =	8760	hr
N2 flow =	0.41250	lb/min N2 @ 760 mm Hg and 20 C

Average Emission Rates

Chloroprene

Total vapor =	0.002934	moles/ft3	
CD vapor =	0.000105	moles/ft3	3.57 mole % CD
CD vapor =	0.009261	lbs CD/ft3 total vapor	
Density of N2 =	0.08270	lb/ft3	760 mmHg & -14 deg C
N2 flow =	4.99	ft3/min for 3 strippers	
Total flow =	5.20	ft3/min for 3 strippers	
CD Vapor flow =	0.19	ft3/min	

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Strippers Condenser Vent
TEMPO ID: RLP0014
Point Source ID No.: 1700-2 *Page* 2 *of* 4

CD Vapor flow =	0.0482	lbs/min
CD Vapor flow =	2.89	lbs/hr
CD Vapor flow =	25309	lbs/yr

Toluene

Determine toluene content of feed to stripper condenser

Total vapor =	0.002764	moles/ft3	
Liquid Mole Fraction Toluene =	0.003977		0.40 mole % toluene
Partial Pressure Toluene =	0.169	mm Hg	
Toluene Vapor =	0.00000061	moles/ft3	0.0222 mole % toluene
Toluene Vapor flow =	0.0012	ft3/min	
Total flow =	5.20	ft3/min	
Toluene Vapor =	0.000003	moles/min	
Toluene Vapor =	0.000294	lb/min	

Determine toluene saturation at condenser exit conditions

Toluene Vapor =	0.000010	moles/ft3
Toluene Vapor =	0.000052	moles/min
Toluene Vapor =	0.004746	lb/min

Toluene enters the stripper below saturation conditions at the exit of the stripper. Assume that no toluene is removed.

Toluene Vapor =	0.000294	lb/min
Toluene Vapor =	0.02	lb/hr
Toluene Vapor =	154	lb/yr
Toluene Vapor =	0.08	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Strippers Condenser Vent
TEMPO ID: RLP0014
Point Source ID No.: 1700-2 *Page* 3 *of* 4

ACR

Determine ACR content of feed to stripper condenser

Total vapor =	0.002764	moles/ft3	
Liquid Mole Fraction ACR =	0.000970		0.10 mole % ACR
Partial Pressure ACR =	0.0590	mm Hg	
ACR Vapor =	0.00000021	moles/ft3	0.0078 mole % ACR
ACR Vapor flow =	0.00040	ft3/min	
Total flow =	5.20	ft3/min	
ACR Vapor =	0.000001	moles/min	
ACR Vapor =	0.000137	lb/min	

Determine ACR saturation at condenser exit conditions

ACR Vapor =	0.000020	moles/ft3
ACR Vapor =	0.000104	moles/min
ACR Vapor =	0.012845	lb/min

ACR enters the stripper below saturation conditions at the exit of the stripper. Assume that no ACR is removed.

ACR Vapor =	0.000137	lb/min
ACR Vapor =	0.01	lb/hr
ACR Vapor =	72	lb/yr
ACR Vapor =	0.04	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Strippers Condenser Vent
TEMPO ID: RLP0014
Point Source ID No.: 1700-2 *Page* 4 *of* 4

Ammonia

Based on Standard Operating Conditions,

Min NH3 addition per Stripper =	0	lb/hr
Max NH3 addition per Stripper =	1.5	lb/hr
Typically ammonia runs at	0.2	lb/hr

Ammonia has single addition point on vacuum pump discharge

NH_3 Addition to vacuum pump =	5256	lb/yr	
Max NH_3 Addition =	39420	lb/yr	at top of SOC

Mean NH_3 emissions assumed 2 x of typical addition 10512 lb/yr

NH_3 Emissions =	10512	lbs/yr
NH_3 Emissions =	1.20	lbs/hr
NH_3 Emissions =	5.256	tpy

Maximum Emission Rates

Maximum emission rates are conservatively assumed to be 1.5 times the average emission rates.

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	25535	2.915	4.372	12.768
Chloroprene	25309	2.889	4.334	12.654
1,2-Dichlrobenzer	0.01	0.000001	0.000002	0.000005
Toluene	154	0.018	0.026	0.077
Ammonia	10512	1.200	1.800	5.256
Total HAPs	25463	2.907	4.360	12.732
Total TAPs	35975	4.107	6.160	17.988

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles Vent Condenser
TEMPO ID: RLP0015
Point Source ID No.: 1700-3 *Page* 1 *of* 11

Basis:

Vapors from all 5 PK pass to a single vent condenser cooled by 2 deg C brine.
Assume all of the nitrogen flowing through the vent condenser will saturate with CD.
Assume vapors inlet and exit vent condenser are saturated with water
CD condensation in the condenser starts at about 6% CD in the inlet stream
Toluene emissions are based on sampling data on March 14, 2002 and March 18, 2002 by METCO Environmental.
On March 14, 2002 type AD was being produced, which includes toluene.
On March 18, 2002 type WHV was being produced which does not inlcude toluene.
The average toluene emission rate measured was 0.2033 lb/hr for a product using a toluene-based stabilizer.
The highest toluene emission rate measured was 0.34 lb/hr for a product using a toluene-based stabilizer.
The average toluene emission rate measured was 0.0033 lb/hr for a product not using a toluene-based stabilizer.
The highest toluene emission rate measured was 0.0054 lb/hr for a product not using a toluene-based stabilizer.
Stabilizer, defoamer, Octopol and Dresinsate are added with the vent closed - insignificant emissions
1,2-Dichlorobenzene emissions are based on a mass balance.

Emulsification Temperature =	35	C
Condenser Exit Temperature =	6	C
Worst case charge size =	41708	lb/charge
Worst Case Product Total Charges =	6743	charges/yr
ACR Type Charges =	6743	charges/yr
Toluene Stabilizer Charges =	6557	charges/yr
Maximum Other Type Charges =	6381	charges/yr
Spec. Grav. Unstripped Emulsion =	1.060	
Venting Time for Emulsification =	31.6	min/charge
Average Toluene Emissions =	0.2033	lb/hr with toluene-based stabilizer
Maximum Toluene Emissions =	0.3400	lb/hr with toluene-based stabilizer
Average Toluene Emissions =	0.0033	lb/hr without toluene-based stabilizer
Maximum Toluene Emissions =	0.0054	lb/hr without toluene-based stabilizer

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles Vent Condenser
TEMPO ID: RLP0015
Point Source ID No.: 1700-3 *Page* 2 *of* 11

Emission Rates

Emulsification

Determine the VOC's inlet the vent condenser to be piped to the new condensing system
CD exit LPK =

1.5 % at start of emulsification
4.8 % 10 min after start of emulsification
6.8 % 15 min after start of emulsification
15.4 % 20 min after start of emulsification
26 % 31.6 min after start of emulsification

Charge Volume =	631	ft3/charge
Nitrogen Purge Rate =	158	ft3/charge
Avg. Displacement Charging Rate =	19.95	ft3/min
CD Displacement Rate =	0.30	ft3/min @ start of emulsification
CD Displacement Rate =	0.96	ft3/min @ 8.54 min after start of emulsification
CD Displacement Rate =	1.36	ft3/min @ 12.82 min after start of emulsification
CD Displacement Rate =	3.07	ft3/min @ 17.09 min after start of emulsification
CD Displacement Rate =	5.19	ft3/min @ 27 min after start of emulsification

nitrogen purge is off during emulsification

Average Displacement Rate =	19.95	ft3/min
% CD =	1.50	% @ start of emulsification
% CD =	4.80	% @ start of emulsification + 8.54 min
% CD =	6.80	% @ start of emulsification + 12.82 min
% CD =	15.40	% @ start of emulsification + 17.09 min
% CD =	26.00	% @ start of emulsification + 27 min

Worst case of nitrogen saturated with CD and H2O at 35 C inlet condenser

Vapor Pressure of CD =	334.34	mm Hg	
Vapor Pressure of H2O =	43.57	mm Hg	
Total Vapor =	0.002468	moles/ft3	
CD Vapor =	0.001086	moles/ft3	43.99 mole % CD
CD Vapor =	0.096122	lbs CD/ft3 total vapor	
H2O Vapor =	0.000141	moles/ft3	5.73 mole % H2O
H2O Vapor =	0.002547	lbs H2O/ft3 total vapor	
N2 Vapor =	0.001241	moles/ft3	50.28 mole % N2
N2 Vapor =	0.034739	lbs N2/ft3 total vapor	

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles Vent Condenser
TEMPO ID: RLP0015
Point Source ID No.: 1700-3 *Page* 3 *of* 11

At saturation exit condenser

Temperature =	6	C	
Total Vapor =	0.002724	moles/ft3	
CD Vapor Pressure =	104.34	mm Hg	
CD Vapor =	0.00037399	moles/ft3	13.73 mole % CD
CD Vapor =	0.03311293	lbs CD/ft3 total vapor	
H2O Vapor Pressure =	7.36	mm Hg	
H2O Vapor =	0.00002637	moles/ft3	0.97 mole % H2O
H2O Vapor =	0.00047470	lbs H2O/ft3 total vapor	
N2 Vapor =	0.00232362	moles/ft3	85.30 mole % N2
N2 Vapor =	0.06506138	lbs N2/ft3 total vapor	

N2 Flow =	16.77	ft3/min @ start of emulsification
N2 Flow =	16.17	ft3/min @ 8.54 min after start of emulsification
N2 Flow =	15.81	ft3/min @ 12.82 min after start of emulsification
N2 Flow =	14.26	ft3/min @ 17.09 min after start of emulsification
N2 Flow =	12.34	ft3/min @ 27 min after start of emulsification
Total Flow =	18.08	ft3/min @ start of emulsification
Total Flow =	17.16	ft3/min @ 8.54 min after start of emulsification
Total Flow =	18.08	ft3/min @ 12.82 min after start of emulsification
Total Flow =	17.70	ft3/min @ 17.09 min after start of emulsification
Total Flow =	15.32	ft3/min @ 27 min after start of emulsification
CD Flow =	0.0654	lb/min @ start of emulsification
CD Flow =	0.1987	lb/min @ 8.54 min after start of emulsification
CD Flow =	0.2965	lb/min @ 12.82 min after start of emulsification
CD Flow =	0.5862	lb/min @ 17.09 min after start of emulsification
CD Flow =	0.5074	lb/min @ 27 min after start of emulsification

Straight line fit points and obtain area under curve

For first 8.54 min CD =	1.1283	lbs
For 8.54 to 12.82 min CD =	1.0577	lbs
For 12.82 to 17.09 min CD =	1.8855	lbs
For 17.09 to 27 min CD =	5.4195	lbs
Total CD per Charge =	9.4910	lbs
Total CD per Year =	64002	lbs/yr
Total CD per Year =	32.00	tons/yr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles Vent Condenser
TEMPO ID: RLP0015
Point Source ID No.: 1700-3 *Page* 4 *of* 11

During emulsification, toluene emissions are quite low, per sampling much less than saturation at 2 C.
Conservatively assume toluene emissions are the same as measured by METCO even with the the larger, more efficient 2 C condenser.
Assume that toluene-based stabilizer types emit the same toluene as A-types (even though A-type stabilizer toluene is 2 times G-types).

A and G-type Maximum Toluene =	0.3400 lbs/hr
Other Type Maximum Toluene =	0.0054 lbs/hr
Average A and G-type Toluene =	0.2033 lbs/hr
Average Other Type Toluene =	0.0033 lbs/hr
Average A and G-type Toluene =	600 lbs/yr
Average Other Type Toluene =	9 lbs/yr
Total Toluene =	609 lbs/yr
Total Average Toluene =	0.2065 lbs/hr

A similar DuPont facility in Louisville reported 0.054 lb/charge of ACR emissions for the types Pontchartrain will be making.
Conservatively assume ACR emissions are the same as the Louisville facility even with a larger, more efficient 2 C condenser.

ACR per Charge =	0.054 lbs/charge
Maximum ACR Emissions =	0.120 lbs/hr
Annual ACR Emissions =	364 lbs/yr
Average ACR Emissions =	0.120 lbs/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles Vent Condenser
TEMPO ID: RLP0015
Point Source ID No.: 1700-3

Decompress Sampling

After stabilization, W types are cooled to 25 C, G-Types cooled to 33 C (GW to 30 C) and A-types are about 20 C.
After stabilization, the PK is vented for sampling through the sample port.
Once in a while, floating coag will be seen at this time and the manhole must be opened for skimming after stabilization.
Venting down occurs when the vast majority of the CD is converted to polymer and entrapped in the polymer, and after cool down of W types, so CD concentration in the vapor will be much less than during charging.
Although it is almost completely reacted in the process, assume ACR is still present.

Assume worst case of nitrogen saturated with CD, toluene, ACR and H2O and the Slocum vapor pressure for CD used in EST calculations.

Temperature =	25 C		
Vapor Pressure of CD =	189 mm Hg		
Vapor Pressure of Toluene =	28.40 mm Hg		
Vapor Pressure of ACR =	42.28 mm Hg		
Vapor Pressure of H2O =	23.6 mm Hg		
Total Vapor =	0.002550 moles/ft3		
CD Vapor =	0.000634 moles/ft3	24.87 mole % CD	
CD Vapor =	0.056158 lbs CD/ft3 total vapor at saturation		
Toluene Vapor =	0.000095 moles/ft3	3.74 mole % toluene	
Toluene Vapor =	0.008782 lbs toluene/ft3 total vapor at saturation		
ACR Vapor =	0.000142 moles/ft3	5.56 mole % ACR	
ACR Vapor =	0.017450 lbs ACR/ft3 total vapor at saturation		
H2O Vapor =	0.000079 moles/ft3	3.11 mole % H2O	
H2O Vapor =	0.001426 lbs H2O/ft3 total vapor at saturation		
Nitrogen Vapor =	0.001600 moles/ft3	62.73 mole % H2O	
Nitrogen Vapor =	0.053274 lbs N2/ft3 total vapor at saturation		

Assume after the vent down occurs, 5 cfm nitrogen purge channels to vent and carries very little CD with it.

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles Vent Condenser
TEMPO ID: RLP0015
Point Source ID No.: 1700-3 *Page* 6 *of* 11

Total Volume of LPK =	825	ft3	
Vapor Volume of LPK =	194	ft3 when fully charged	
Amount of Vapor Decompression =	13.23	ft3	exit the vent
CD in Vapor Decompressed =	3.29	ft3	exit the vent
CD in Vapor Decompressed =	0.18	lbs/charge	exit the vent
CD in Vapor Decompressed =	1246	lbs/yr	exit the vent
Toluene in Vapor Decompressed =	0.49	ft3	exit the vent
Toluene in Vapor Decompressed =	0.0043	lbs/charge	exit the vent
Toluene in Vapor Decompressed =	29.28	lbs/yr	exit the vent
ACR in Vapor Decompressed =	0.74	ft3	exit the vent
ACR in Vapor Decompressed =	0.01	lbs/charge	exit the vent
ACR in Vapor Decompressed =	86.60	lbs/yr	exit the vent
N2 in Vapor Decompressed =	8.30	ft3	exit the vent
H2O in Vapor Decompressed =	0.41	ft3	exit the vent
0.5 N2 Purge =	0.00	ft3/min	exit the vent
Venting Time =	1	min	
Total N2 Flow =	8.30	ft3/min	exit the vent
Total Venting Rate =	13.23	ft3/min	exit the vent
% CD of Total Venting Rate =	24.87	% CD	exit the vent
% Toluene of Total Venting Rate =	3.74	% toluene	exit the vent
% ACR of Total Venting Rate =	5.56	% ACR	exit the vent
Venting Temperature =	25	C	exit the vent

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles Vent Condenser
TEMPO ID: RLP0015
Point Source ID No.: 1700-3 *Page* 7 *of* 11

The PK emissions are directed to the vent condenser.
Using the same assumptions as for final emulsification venting calculations for initial vent down after stabilization,

Temperature =	6	C	
Total Vapor =	0.002724	moles/ft3	
CD Vapor Pressure =	104.34	mm Hg	
CD Vapor =	0.00037399	moles/ft3	13.73 mole % CD
CD Vapor =	0.03311293	lbs CD/ft3 total vapor	
Toluene Vapor Pressure =	9.77	mm Hg	
Toluene Vapor =	0.000035	moles/ft3	1.29 mole % toluene
Toluene Vapor =	0.003226	lbs toluene/ft3 total vapor	
ACR Vapor Pressure =	16.39	mm Hg	
ACR Vapor =	0.000059	moles/ft3	2.16 mole % ACR
ACR Vapor =	0.007226	lbs ACR/ft3 total vapor	
H2O Vapor Pressure =	7.36	mm Hg	
H2O Vapor =	0.00002637	moles/ft3	0.97 mole % H2O
H2O Vapor =	0.00233502	lbs H2O/ft3 total vapor	

N2 Flow =	8.30	ft3/min
% N2 of Total Flow =	85.30	%
Total Venting Rate =	9.73	ft3/min
CD Venting Rate =	1.3357	ft3/min
CD Venting Rate =	0.3222	lb/min
CD Venting Rate =	0.3222	lbs/charge
CD Venting Rate =	2172	lbs/yr
Toluene Venting Rate =	0.1251	ft3/min
Toluene Venting Rate =	0.0314	lb/min
Toluene Venting Rate =	0.0314	lbs/charge
Toluene Venting Rate =	212	lbs/yr
ACR Venting Rate =	0.2098	ft3/min
ACR Venting Rate =	0.0703	lb/min
ACR Venting Rate =	0.0703	lbs/charge
ACR Venting Rate =	474	lbs/yr
H2O Flow =	0.0942	ft3/min
H2O Flow =	0.1992	lb/min
H2O Flow =	0.1992	lbs/charge
H2O Flow =	1343	lbs/yr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles Vent Condenser
TEMPO ID: RLP0015
Point Source ID No.: 1700-3 *Page* 8 *of* 11

Vent Open Sampling

In sample mode, the vent valve is opened, and the nitrogen purge closed off
This period is for 1 minute; there will be some low concentration CD flows to the vent condenser for 1 minute.
This essentially repeats the emission for Decompress Sampling

Decompress for Wash

After dropping the charge and displacing with 0.5 psig N2, the PK is vented down for water washing through the manway.
Normally, the manway with sight glass does not need to be opened to inspect the LPK is empty after dropping. However, once in a while the manhole must be opened to clean out popcorn or coag.
For these cases use data from decompress sampling for initial CD concentration early in the charging sequence (2% by volume) and assume that the venting occurs quickly
It is assumed that toluene and ACR concentrations are proportional to the CD concentration.
Assume after the vent down occurs, nitrogen purge channels to vent and carries very little CD with it.

Venting Temperature =	25	C	
Total Volume of LPK =	825	ft3	
Amount of Vapor Decompression =	28	ft3	exit the vent
Total Vapor =	0.002550	moles/ft3	
CD Vapor =	0.000051	moles/ft3	2.00 mole % CD
CD Vapor =	0.004516	lbs CD/ft3 total vapor	
Toluene Vapor =	0.000008	moles/ft3	0.30 mole % toluene
Toluene Vapor =	0.000706	lbs toluene/ft3 total vapor	
ACR Vapor =	0.000011	moles/ft3	0.45 mole % ACR
ACR Vapor =	0.001403	lbs ACR/ft3 total vapor	
CD in Vapor Decompressed =	0.561	ft3	exit the vent
CD in Vapor Decompressed =	0.127	lbs/charge	exit the vent
CD in Vapor Decompressed =	855	lbs/yr	exit the vent
Toluene in Vapor Decompressed =	0.084	ft3	exit the vent
Toluene in Vapor Decompressed =	0.020	lbs/charge	exit the vent
Toluene in Vapor Decompressed =	134	lbs/yr	exit the vent
ACR in Vapor Decompressed =	0.126	ft3	exit the vent
ACR in Vapor Decompressed =	0.039	lbs/charge	exit the vent
ACR in Vapor Decompressed =	266	lbs/yr	exit the vent
N2 in Vapor Decompressed =	27.51	ft3	exit the vent

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles Vent Condenser
TEMPO ID: RLP0015
Point Source ID No.: 1700-3 *Page* 9 *of* 11

0.5 psig N2 Purge =	5.00	ft3/min	exit the vent
Venting Time =	1	min	
Total N2 Flow =	32.51	ft3/min	exit the vent
Total Venting Rate =	33.07	ft3/min	exit the vent
% CD of Total Venting Rate =	1.70	% CD	exit the vent
% Toluene of Total Venting Rate =	0.26	% toluene	exit the vent
% ACR of Total Venting Rate =	0.38	% ACR	exit the vent
Venting Temperature =	25	C	exit the vent

The PK emissions are directed to the vent condenser.
Make the same assumptions as for final emulsification venting calculations.
Since nitrogen is much less than saturation at exit condenser conditions, condenser inlet and exit CD, toluene and ACR concentrations are essentially the same.

Total Venting Rate =	33.07	ft3/min
CD Venting Rate =	0.561377	ft3/min
CD Venting Rate =	0.135394	lbs/min
CD Venting Rate =	0.14	lbs/charge
CD Venting Rate =	913	lbs/yr
Toluene Venting Rate =	0.084360	ft3/min
Toluene Venting Rate =	0.021173	lbs/min
Toluene Venting Rate =	0.02	lbs/charge
Toluene Venting Rate =	143	lbs/yr
ACR Venting Rate =	0.125573	ft3/min
ACR Venting Rate =	0.042070	lbs/min
ACR Venting Rate =	0.04	lbs/charge
ACR Venting Rate =	284	lbs/yr

Vent Open for Wash

For PK wash, PK is empty and filled with nitrogen; vent valve is open, but nitrogen purge is off.
There is a very low flow of vaporwith some low CD concentration to condenser for 10 minutes.
chimney effect will draw air in through manway and out the vent, located nearby.
There is no depressurization, so flow is deminimus and can be neglected.

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles Vent Condenser
TEMPO ID: RLP0015
Point Source ID No.: 1700-3 *Page* 10 *of* 11

Decompress to Emulsify

Before allowing emulsification to begin (vent valve to open), 0.3 psig must be detected in the LPK.
A vent down from 0.3 to 0 psig occurs at the start of emulsification.
For this case use data from decompress sampling for initial CD concentration early in the charging sequence inlet the vent condenser (2% by volume) since the venting occurs quickly.
It is assumed that toluene and ACR concentrations are proportional to the CD concentration.

Venting Temperature =	25	C	
Total Volume of LPK =	825	ft3	
Amount of Vapor Decompression =	16.84	ft3	exit the vent
Total vapor =	0.002550	moles/ft3	
CD Vapor =	0.000051	moles/ft3	2.00 mole % CD
CD Vapor =	0.004516	lbs CD/ft3 total vapor	
Toluene Vapor =	0.000008	moles/ft3	0.30 mole % toluene
Toluene Vapor =	0.000706	lbs toluene/ft3 total vapor	
ACR Vapor =	0.000011	moles/ft3	0.45 mole % ACR
ACR Vapor =	0.001403	lbs ACR/ft3 total vapor	
CD in Vapor Decompressed =	0.337	ft3	exit the vent
CD in Vapor Decompressed =	0.076	lbs/charge	exit the vent
CD in Vapor Decompressed =	513	lbs/yr	exit the vent
Toluene in Vapor Decompressed =	0.050616	ft3	exit the vent
Toluene in Vapor Decompressed =	0.011895	lbs/charge	exit the vent
Toluene in Vapor Decompressed =	80	lbs/yr	exit the vent
ACR in Vapor Decompressed =	0.075344	ft3	exit the vent
ACR in Vapor Decompressed =	0.023634	lbs/charge	exit the vent
ACR in Vapor Decompressed =	159	lbs/yr	exit the vent
N2 in Vapor Decompressed =	16.50	ft3	exit the vent
0.5 N2 Purge =	5.00	ft3/min	exit the vent
Venting Time =	1	min	
Total N2 Flow =	21.50	ft3/min	exit the vent
Total Venting Rate =	21.84	ft3/min	exit the vent
% CD of Total Venting Rate =	1.54	% CD	exit the vent
% Toluene of Total Venting Rate =	0.23	% toluene	exit the vent
% ACR of Total Venting Rate =	0.34	% ACR	exit the vent
Venting Temperature =	25	C	exit the vent

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles Vent Condenser
TEMPO ID: RLP0015
Point Source ID No.: 1700-3 *Page* 11 *of* 11

The PK emissions are directed to the vent condenser.
Make the same assumptions as for final emulsification venting calculations.
Since nitrogen is much less than saturation at exit condenser conditions, condenser inlet and exit CD concentration are essentially the same.
For vent down prior to emulsification
Since nitrogen is much less than saturation at exit condenser conditions -

Total Venting Rate =	21.84	ft3/min
CD Venting rate =	0.336826	ft3/min
CD Venting rate =	0.081236	lbs/min
CD Venting rate =	0.08	lbs/charge
CD Venting rate =	548	lbs/yr
Toluene Venting Rate =	0.050616	ft3/min
Toluene Venting Rate =	0.012704	lbs/min
Toluene Venting Rate =	0.01	lbs/charge
Toluene Venting Rate =	86	lbs/yr
ACR Venting Rate =	0.075344	ft3/min
ACR Venting Rate =	0.025242	lbs/min
ACR Venting Rate =	0.03	lbs/charge
ACR Venting Rate =	170	lbs/yr

Summary

ACR is potentially emitted at a level of 0.54 tpy, although it is not present in the worst case product. Therefore, ACR totals are not part of the annual VOC emission totals and are calculated only for reference.

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	68685	7.841	35.631	34.342
Chloroprene	67635	7.721	35.171	33.818
1,2-Dichlorobenze	10	0.001	0.001	0.005
Toluene	1050	0.120	0.340	0.525
Total HAPs	68695	7.842	35.513	34.347
Total TAPs	68695	7.842	35.513	34.347

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Unstripped Emulsion Storage Tanks Common Vent & Cap
TEMPO ID: GRP0008
Point Source ID No.: 1700-5 *Page* 1 *of* 1

Basis:

Common vent for Unstripped Emulsion Storage Tank No. 6 (1700-5.3/EQT0150), Unstripped Emulsion Storage Tank No. 7 (1700-5.4/EQT0151), Unstripped Emulsion Storage Tank No. 8 (1700-5.5/EQT0152), Unstripped Emulsion Storage Tank No. 10 (1700-5.6/EQT0153), Unstripped Emulsion Storage Tank No. 11 (1700-5.7/EQT0154), and Unstripped Emulsion Storage Tank No. 14 (1700-5.8/EQT0155).

Emissions:

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	5898	0.673	-	2.949
Chloroprene	5826	0.665	-	2.913
1,2-Dichlorobenze	0.004	0.000	-	0.000
Toluene	51	0.006	-	0.025
Total HAPs	5877	0.671	-	2.938
Total TAPs	5877	0.671	-	2.938

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 6 Emulsion Storage Tank Manway & Stripper Feed Strainers
TEMPO ID: EQT0167
Point Source ID No.: 1700-5A

Basis:

No. 6 EST is used solely for storage of unstripped WBG-2 emulsion or stripped emulsion of other types. WBG-2 is fully converted, so CD emissions are deminimus even from unstripped WBG-2 emulsion.
The unstripped emulsion (USE) tank is vented down to atmospheric pressure and the nitrogen blanket which enters the top of the tank is turned off before opening the manway.
Ventilation around the two stripper feed strainers and ventilation on the popcorn drum and emulsion drum are connected to this blower. This is the source of CD to this emisssion point.
Based on operator estimates, volume calculations and field observations, 5 to 6 gallons of emulsion drains from the strainer each cleaning.
When the emulsion drum is full, it is pumped back into the USE tank. When the popcorn drum is full it is moved to the drum pad and steamed before landfill disposal.
A strainer is to be cleaned each shift (12 hrs) minimum.
Strainer cleaning frequency does not correlate with stripper feed rate or strippers on line but does correlate with type and type changes (A's to W's in particular)
Per actual practice , while on A-types the frequency is about once/8 hr and once/12 hr while on W-types.
Emissions are based on spot sampling data conducted in September-October 2002 which showed an average chloroprene (CD) concentration of 3.4 ppm with a maximum concentration of 4.7 ppm.
The maximum concentration is estimated to be 10% greater than the maximum measured concentration.
Toluene and other VOC emissions are estimated using the fraction of saturation of CD.
Conservatively assume ACR is still present in the material.
Calculation basis provided by Mr. P. Offut, DuPont

Rated Capacity of Blower =	7400	cfm
Amount of Time Discharging =	8760	hours/yr
Average CD in Air Exhausted =	3.4	ppm CD by volume
Maximum CD in Air Exhausted =	5.17	ppm CD by volume
Molecular Weight of CD =	88.54	lb/lb-mole
Molecular Weight of Toluene =	92.14	lb/lb-mole
Molecular Weight of ACR =	122.99	lb/lb-mole
Temperature =	25	°C
Pressure =	14.696	psia

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 6 Emulsion Storage Tank Manway & Stripper Feed Strainers
TEMPO ID: EQT0167
Point Source ID No.: 1700-5A

Average Emission Rates

Chloroprene

Using given information,

Average CD Emissions =	0.0252	cfm CD

Using the Ideal Gas Law,

Average CD Emissions =	0.000064	moles CD/minute
Average CD Emissions =	0.005682	lbs CD/minute
Average CD Emissions =	0.341	lbs CD/hour
Average CD Emissions =	2986	lbs/yr
Average CD Emissions =	1.49	tons/yr

Toluene

Using the Ideal Gas Law,

V.P. of CD at Saturation =	189.00	mm Hg
Total Vapor =	0.002550	moles/ft3
Mole Fraction CD =	0.00034	%
CD Vapor =	0.00000001	moles/ft3
CD Partial Pressure =	0.003	mm Hg
Ratio =	0.000014	
V.P. of Toluene at Saturation =	28.40	mm Hg
Toluene Partial Pressure =	0.0004	mm Hg
Toluene Vapor =	0.000000001	moles/ft3
Toluene Vapor =	0.00001	moles/min
Toluene Vapor =	0.001	lb/min
Toluene Vapor =	0.05	lb/hr
Toluene Vapor =	0.23	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 6 Emulsion Storage Tank Manway & Stripper Feed Strainers
TEMPO ID: EQT0167
Point Source ID No.: 1700-5A

ACR

Ratio =	0.000014	
V.P. of ACR at Saturation =	42.28	mm Hg
ACR Partial Pressure =	0.0006	mm Hg
ACR Vapor =	0.000000002	moles/ft3
ACR Vapor =	0.00001	moles/min
ACR Vapor =	0.0018	lb/min
ACR Vapor =	0.11	lb/hr
ACR Vapor =	0.46	tpy

Maximum Emission Rates

Using given information,

Maximum CD Emissions = 0.0383 cfm CD

Using the Ideal Gas Law,

Maximum CD Emissions =	0.000098	moles CD/minute
Maximum CD Emissions =	0.008639	lbs CD/minute
Maximum CD Emissions =	0.518	lbs CD/hour

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 6 Emulsion Storage Tank Manway & Stripper Feed Strainers
TEMPO ID: EQT0167
Point Source ID No.: 1700-5A

Toluene

Using the Ideal Gas Law,

V.P. of CD at Saturation =	189.00	mm Hg
Total Vapor =	0.002550	moles/ft3
Mole Fraction CD =	0.000517	%
CD Vapor =	0.00000001	moles/ft3
CD Partial Pressure =	0.004	mm Hg
Ratio =	0.000021.	
V.P. of Toluene at Saturation =	28.40	mm Hg
Toluene Partial Pressure =	0.0006	mm Hg
Toluene Vapor =	0.000000002	moles/ft3
Toluene Vapor =	0.00001	moles/min
Toluene Vapor =	0.0014	lb/min
Toluene Vapor =	0.08	lb/hr

ACR

Ratio =	0.000021	
V.P. of ACR at Saturation =	42.28	mm Hg
ACR Partial Pressure =	0.0009	mm Hg
ACR Vapor =	0.000000003	moles/ft3
ACR Vapor =	0.00002	moles/min
ACR Vapor =	0.0027	lb/min
ACR Vapor =	0.16	lb/hr

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	4381	0.500	0.761	2.191
Chloroprene	2986	0.341	0.518	1.493
Toluene	467	0.053	0.081	0.234
Total HAPs	3453	0.394	0.599	1.727
Total TAPs	3453	0.394	0.599	1.727

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettle No. 1 & 2 Manway / Drop Strainers
TEMPO ID: EQT0135
Point Source ID No.: 1700-13 *Page* 1 *of* 4

Basis:

The manways and drop strainers on each PK are equipped with ventilation systems.
The strainer cleanings solids drums and emulsion drums are equipped with lids and protective ventilation.
Since the manway is seldom opened when the PK is charged, emissions *should be small.*
The manway on each PK is opened once per day for inhibitor spraying of the dome. Since this is done after the charge is completed and cooled, CD concentrations are low and emissions should be low.
Opening and cleaning the *strainer after dropping* the charge and water flushing results in emissions.
Emissions are based on spot sampling data for the exhaust blower for PK 3, 4 & 5 conducted in September-October 2002 which showed an average chloroprene (CD) concentration of 14.45 ppm with a maximum concentration of 15.37 ppm.
The maximum concentration is estimated to be 10% greater than the maximum measured concentration.
Toluene and other VOC emissions are estimated using the fraction of saturation of CD.
Conservatively assume ACR is still present in the material.
Calculation basis provided by Mr. P. Offut, DuPont

Rated Capacity of Blower =	6900	cfm
Amount of Time Discharging =	8760	hours/yr
Average CD in Air Exhausted =	14.45	ppm CD by volume
Maximum CD in Air Exhausted =	16.91	ppm CD by volume
Molecular Weight of CD =	88.54	lb/lb-mole
Molecular Weight of Toluene =	92.14	lb/lb-mole
Molecular Weight of ACR =	122.99	lb/lb-mole
Temperature =	30	°C
Pressure =	14.696	psia

Average Emission Rates

Chloroprene

Using given information,

Average CD Emissions = 0.0997 cfm CD

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettle No. 1 & 2 Manway / Drop Strainers
TEMPO ID: EQT0135
Point Source ID No.: 1700-13

Using the Ideal Gas Law,

Average CD Emissions =	0.000250	moles CD/minute
Average CD Emissions =	0.022144	lbs CD/minute
Average CD Emissions =	1.329	lbs CD/hour
Average CD Emissions =	11639	lbs/yr
Average CD Emissions =	5.82	tons/yr

Toluene

Using the Ideal Gas Law,

V.P. of CD at Saturation =	280.10	mm Hg
Total Vapor =	0.002508	moles/ft3
Mole Fraction CD =	0.001445	%
CD Vapor =	0.00000004	moles/ft3
CD Partial Pressure =	0.011	mm Hg
Ratio =	0.000039	
V.P. of Toluene at Saturation =	36.61	mm Hg
Toluene Partial Pressure =	0.0014	mm Hg
Toluene Vapor =	0.000000005	moles/ft3
Toluene Vapor =	0.00003	moles/min
Toluene Vapor =	0.003	lb/min
Toluene Vapor =	0.18	lb/hr
Toluene Vapor =	0.79	tpy

ACR

Ratio =	0.000039	
V.P. of ACR at Saturation =	53.19	mm Hg
ACR Partial Pressure =	0.0021	mm Hg
ACR Vapor =	0.00000001	moles/ft3
ACR Vapor =	0.00005	moles/min
ACR Vapor =	0.0058	lb/min
ACR Vapor =	0.35	lb/hr
ACR Vapor =	1.54	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettle No. 1 & 2 Manway / Drop Strainers
TEMPO ID: EQT0135
Point Source ID No.: 1700-13 *Page* 3 *of* 4

Maximum Emission Rates

Chloroprene

Using given information,

Maximum CD Emissions =	0.1167	cfm CD

Using the Ideal Gas Law,

Maximum CD Emissions =	0.000293	moles CD/minute
Maximum CD Emissions =	0.025910	lbs CD/minute
Maximum CD Emissions =	1.555	lbs CD/hour

Toluene

Using the Ideal Gas Law,

V.P. of CD at Saturation =	280.10	mm Hg
Total Vapor =	0.002508	moles/ft3
Mole Fraction CD =	0.0016907	%
CD Vapor =	0.00000004	moles/ft3
CD Partial Pressure =	0.013	mm Hg
Ratio =	0.000046	
V.P. of Toluene at Saturation =	36.61	mm Hg
Toluene Partial Pressure =	0.0017	mm Hg
Toluene Vapor =	0.00000001	moles/ft3
Toluene Vapor =	0.00004	moles/min
Toluene Vapor =	0.0035	lb/min
Toluene Vapor =	0.21	lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettle No. 1 & 2 Manway / Drop Strainers
TEMPO ID: EQT0135
Point Source ID No.: 1700-13

ACR

Ratio =	0.000046	
V.P. of ACR at Saturation =	53.19	mm Hg
ACR Partial Pressure =	0.0024	mm Hg
ACR Vapor =	0.00000001	moles/ft3
ACR Vapor =	0.00006	moles/min
ACR Vapor =	0.0068	lb/min
ACR Vapor =	0.41	lb/hr

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	16292	1.860	2.176	8.146
Chloroprene	11639	1.329	1.555	5.820
Toluene	1583	0.181	0.211	0.792
Total HAPs	13222	1.509	1.766	6.611
Total TAPs	13222	1.509	1.766	6.611

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles No. 3, 5 & 5 Manway / Drop Strainers
TEMPO ID: EQT0136
Point Source ID No.: 1700-13A

Basis:

The manways, sample ports and drop strainers on each PK are equipped with ventilation systems.
The strainer cleanings solids drums and emulsion drums are equipped with lids and protective ventilation.
With the changes in PK nitrogen blanketing and CD concentrations being low at the end of the charge, the emissions from the sample port should be very small
Since the manhole is seldom opened when the PK is charged, emissions should be small
The manway on each PK is to be opened once per day for inhibitor spraying of the dome. Since this is done after the charge is completed and cooled, CD concentrations are low and emissions should be low.
Opening and cleaning the strainer after dropping the charge and water flushing results in emissions.
Emissions are based on spot sampling data conducted in September-October 2002 which showed an average chloroprene (CD) concentration of 14.45 ppm with a maximum concentration of 15.37 ppm.
The maximum concentration is estimated to be 10% greater than the maximum measured concentration.
Toluene and other VOC emissions are estimated using the fraction of saturation of CD.
Conservatively assume ACR is still present in the material.
Calculation basis provided by Mr. P. Offut, DuPont

Rated Capacity of Blower =	8500	cfm
Amount of Time Discharging =	8760	hours/yr
Average CD in Air Exhausted =	14.45	ppm CD by volume
Maximum CD in Air Exhausted =	16.91	ppm CD by volume
Molecular Weight of CD =	88.54	lb/lb-mole
Molecular Weight of Toluene =	92.14	lb/lb-mole
Molecular Weight of ACR =	122.99	lb/lb-mole
Temperature =	30	°C
Pressure =	14.696	psia

Average Emission Rates

Chloroprene

Using given information,

Average CD Emissions = 0.1228 cfm CD

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles No. 3, 5 & 5 Manway / Drop Strainers
TEMPO ID: EQT0136
Point Source ID No.: 1700-13A

Using the Ideal Gas Law,

Average CD Emissions =	0.000308	moles CD/minute
Average CD Emissions =	0.027279	lbs CD/minute
Average CD Emissions =	1.637	lbs CD/hour
Average CD Emissions =	14338	lbs/yr
Average CD Emissions =	7.17	tons/yr

Toluene

Using the Ideal Gas Law,

V.P. of CD at Saturation =	280.10	mm Hg
Total Vapor =	0.002508	moles/ft3
Mole Fraction CD =	0.001445	%
CD Vapor =	0.00000004	moles/ft3
CD Partial Pressure =	0.011	mm Hg
Ratio =	0.000039	
V.P. of Toluene at Saturation =	36.61	mm Hg
Toluene Partial Pressure =	0.0014	mm Hg
Toluene Vapor =	0.000000005	moles/ft3
Toluene Vapor =	0.00004	moles/min
Toluene Vapor =	0.004	lb/min
Toluene Vapor =	0.22	lb/hr
Toluene Vapor =	0.98	tpy

ACR

Ratio =	0.000039	
V.P. of ACR at Saturation =	53.19	mm Hg
ACR Partial Pressure =	0.0021	mm Hg
ACR Vapor =	0.00000001	moles/ft3
ACR Vapor =	0.00006	moles/min
ACR Vapor =	0.0072	lb/min
ACR Vapor =	0.43	lb/hr
ACR Vapor =	1.89	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles No. 3, 5 & 5 Manway / Drop Strainers
TEMPO ID: EQT0136
Point Source ID No.: 1700-13A

Maximum Emission Rates

Chloroprene

Using given information,

Maximum CD Emissions =	0.1437	cfm CD

Using the Ideal Gas Law,

Maximum CD Emissions =	0.000360	moles CD/minute
Maximum CD Emissions =	0.031918	lbs CD/minute
Maximum CD Emissions =	1.915	lbs CD/hour

Toluene

Using the Ideal Gas Law,

V.P. of CD at Saturation =	280.10	mm Hg
Total Vapor =	0.002508	moles/ft3
Mole Fraction CD =	0.0016907	%
CD Vapor =	0.00000004	moles/ft3
CD Partial Pressure =	0.013	mm Hg
Ratio =	0.000046	
V.P. of Toluene at Saturation =	36.61	mm Hg
Toluene Partial Pressure =	0.0017	mm Hg
Toluene Vapor =	0.00000001	moles/ft3
Toluene Vapor =	0.00005	moles/min
Toluene Vapor =	0.0043	lb/min
Toluene Vapor =	0.26	lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Kettles No. 3, 5 & 5 Manway / Drop Strainers
TEMPO ID: EQT0136
Point Source ID No.: 1700-13A

ACR

Ratio =	0.000046	
V.P. of ACR at Saturation =	53.19	mm Hg
ACR Partial Pressure =	0.0024	mm Hg
ACR Vapor =	0.00000001	moles/ft3
ACR Vapor =	0.00007	moles/min
ACR Vapor =	0.0084	lb/min
ACR Vapor =	0.51	lb/hr

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	20070	2.291	2.681	10.035
Chloroprene	14338	1.637	1.915	7.169
Toluene	1950	0.223	0.260	0.975
Total HAPs	16288	1.859	2.176	8.144
Total TAPs	16288	1.859	2.176	8.144

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Solution Makeup Manhole Common Vent
TEMPO ID: GRP0006
Point Source ID No.: 1700-14B

Basis:

Common vent for Acetic Acid Make-Up Tank (1700-14B.1/EQT0137), Acetic Acid Hold-Up Tank (1700-14B.2/EQT00138), and Stabilizer & Catalyst Tanks Manholes Vent (1700-14B.3/RLP0013).

Emissions:

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
PM-10	131	1.473	9.092	0.066
Total VOC	1119	0.128	0.602	0.559
Chloroprene	738	0.084	0.093	0.369
Toluene	242	0.028	0.494	0.121
Total HAPs	980	0.112	0.586	0.490
Total TAPs	980	0.112	0.586	0.490

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Solution Makeup Manhole Common Vent
TEMPO ID: GRP0006
Point Source ID No.: 1700-14B

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Stabilizer Tanks Manholes Vent
TEMPO ID: RLP0013
Point Source ID No.: 1700-14B.3

Basis:

Based on 10 hr TWA area data developed between 1999 and 2001, the average concentration of CD in the building air is 0.56 ppmv.
Monitoring data for toluene between February 2001 and September 2002 indicate an average concentration of 0.176 ppm. Toluene is emitted during makeup of toluene based stabilizer when the manhole is open.
There is no ACR present in toluene based stabilizer, and no realistic opportunity for ACR to be present in the ambient air around the Stabilizer tanks.
The maximum concentration is estimated to be 10% greater than the maximum measured concentration for CD and toluene.
PTZ, TETD, Lowinox, and Neozone A are added to the makeup tanks through the manholes resulting in particulate emissions.
Estimated that 0.1% of the TETD, Lowinox, PTZ and Neozone A transferred becomes airborne.
Estimated that 50% of the airborne dust is captured by exhaust system. Remainder is captured in building.

Calculation basis provided by Mr. P. Offut, DuPont

Rated Capacity of Blower =	11100	cfm
Amount of Time Discharging =	8760	hours/yr
Amount of Time Discharging =	8760	hours/yr while on toluene stabilizer types
Average CD in Air Exhausted =	0.56	ppm CD by volume
Maximum CD in Air Exhausted =	0.62	ppm CD by volume
Avg. Toluene in Air Exhausted =	0.176	ppm toluene by volume
Max. Toluene in Air Exhausted =	3.1464	ppm toluene by volume
Avg. ACR in Air Exhausted =	0	ppm ACR by volume
Max. ACR in Air Exhausted =	0	ppm ACR by volume
Molecular Weight of CD =	88.54	lb/lb-mole
Molecular Weight of Toluene =	92.4	lb/lb-mole
Molecular Weight of ACR =	122.99	lb/lb-mole
Temperature =	25	°C
Pressure =	14.696	psia
PTZ Used =	2650	lb/yr
Fraction Airborne =	0.1	%

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Stabilizer Tanks Manholes Vent
TEMPO ID: RLP0013
Point Source ID No.: 1700-14B.3

TETD Used =	191015 lb/yr
Lowinox Used =	21660 lb/yr
Neozone A Used =	47184 lb/yr
Fraction Airborne =	0.1 %
Average Solids Addition Time =	89 hours
Minimum Solids Addition Time =	14.44 hours

Average VOC Emission Rates

Chloroprene

Using given information,

Average CD Emissions = 0.0062 cfm CD

Using the Ideal Gas Law,

Average CD Emissions =	0.000016 moles/minute
Average CD Emissions =	0.001404 lbs/minute
Average CD Emissions =	0.084 lbs/hour
Average CD Emissions =	738 lbs/yr
Average CD Emissions =	0.37 tons/yr

Toluene

Using given information,

Average Toluene Emissions = 0.0020 cfm toluene

Using the Ideal Gas Law,

Average Toluene Emissions =	0.000005 moles/minute
Average Toluene Emissions =	0.000460 lbs/minute
Average Toluene Emissions =	0.028 lbs/hour
Average Toluene Emissions =	242 lbs/yr
Average Toluene Emissions =	0.12 tons/yr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Stabilizer Tanks Manholes Vent
TEMPO ID: RLP0013
Point Source ID No.: 1700-14B.3

Maximum VOC Emission Rates

Chloroprene

Using given information,

Maximum CD Emissions = 0.0068 cfm CD

Using the Ideal Gas Law,

Maximum CD Emissions = 0.000017 moles CD/minute
Maximum CD Emissions = 0.001544 lbs CD/minute
Maximum CD Emissions = 0.093 lbs CD/hour

Toluene

Using given information,

Maximum Toluene Emissions = 0.0349 cfm toluene

Using the Ideal Gas Law,

Maximum Toluene Emissions = 0.000089 moles/minute
Maximum Toluene Emissions = 0.008231 lbs/minute
Maximum Toluene Emissions = 0.494 lbs/hour

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Stabilizer Tanks Manholes Vent
TEMPO ID: RLP0013
Point Source ID No.: 1700-14B.3 *Page* 4 *of* 4

PM/PM-10 Emissions

Capture Efficiency = 50 %

PM/PM-10 Emissions = Process rate, lb/yr x Fraction Airborne x Capture Efficiency / 104 hr/yr

= (2650 lb/yr x 0.1% + 259859 lb/yr x 0.1%) x 50% / 89 hr/yr
= 1.473 lb/hr
= 0.0656 tpy

Maximum PM/PM-10 Emission Rates

Capture Efficiency = 50 %

PM/PM-10 Emissions = Process rate, lb/yr x Fract. Airborne x Capture Efficiency / 16.88 hr/yr

= (2650 lb/yr x 0.1% + 259859 lb/yr x 0.1%) x 50% / 14.44 hr/yr
= 9.092 lb/hr

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
PM-10	131	1.473	9.092	0.066
Total VOC	980	0.112	0.586	0.490
Chloroprene	738	0.084	0.093	0.369
Toluene	242	0.028	0.494	0.121
Total HAPs	980	0.112	0.586	0.490
Total TAPs	980	0.112	0.586	0.490

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: CD Refining Column Jets Emissions Cap
TEMPO ID: GRP0012
Point Source ID No.: 1700-20 CAP

Basis:

Emissions cap for CD Refining Column Jet (1700-20/EQT0139) and CD Refining Column Jet (Spare) (1700-20A/EQT00140).

Emissions:

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
NOx	6597	0.753	0.828	3.298
Total VOC	24801	2.831	3.114	12.401
Chloroprene	24794	2.830	3.113	12.397
Toluene	7	0.001	0.001	0.003
Ammonia	0.07	0.000008	0.000009	0.00004
Total HAPs	24801	2.831	3.114	12.401
Total TAPs	24801	2.831	3.114	12.401

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: CD Refining Column Jet
TEMPO ID: EQT0139
Point Source ID No.: 1700-20 *Page* 1 *of* 5

Basis:

Emissions are based on sampling data on March 12, 2002 and March 21, 2002 by METCO Environmental.
On March 12, 2002 type AD was being produced, which includes toluene.
On March 21, 2002 type WHV was being produced which does not inlcude toluene.
The highest vent rate measured is 4.584 dscfm.
The highest NOx concentration measured is 22945.5 ppmv.
The highest chloroprene (CD) concentration measured is 44807 ppmv.
The highest toluene concentration measured is 12 ppmv.
Ammonia was measured at less than 0.68 ppmv. Conservatively assume a concentration of 0.68 ppmv.
The maximum concentrations are estimated to be 10% greater than the maximum measured concentration.
Calculation basis provided by Mr. P. Offut, DuPont

Vent Rate =	4.584	cfm
Amount of Time Venting =	8760	hours/yr
Average NOx in Air Vented =	22945.5	ppm NOx by volume
Maximum NOx in Air Vented =	25240	ppm NOx by volume
Average CD in Air Vented =	44807	ppm CD by volume
Maximum CD in Air Vented =	49288	ppm CD by volume
Avg. Toluene in Air Vented =	12	ppm toluene by volume
Max. Toluene in Air Vented =	13.2	ppm toluene by volume
Avg. Ammonia in Air Vented =	0.68	ppm ammonia by volume
Max. Ammonia in Air Vented =	0.75	ppm ammonia by volume
Molecular Weight of NOx =	46	lb/lb-mole
Molecular Weight of CD =	88.54	lb/lb-mole
Molecular Weight of Toluene =	92.4	lb/lb-mole
Molecular Weight of Ammonia =	17	lb/lb-mole
Temperature =	20	°C
Pressure =	14.696	psia

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: CD Refining Column Jet
TEMPO ID: EQT0139
Point Source ID No.: 1700-20 *Page* 2 *of* 5

Average Emission Rates

Nitrogen Dioxide

Using given information,

Average NOx Emissions = 0.11 cfm NOx

Using the Ideal Gas Law,

Average NOx Emissions =	0.000273	moles/minute
Average NOx Emissions =	0.012551	lbs/minute
Average NOx Emissions =	0.753	lbs/hour
Average NOx Emissions =	6597	lbs/yr
Average NOx Emissions =	3.30	tons/yr

Chloroprene

Using given information,

Average CD Emissions = 0.2054 cfm CD

Using the Ideal Gas Law,

Average CD Emissions =	0.000533	moles/minute
Average CD Emissions =	0.047173	lbs/minute
Average CD Emissions =	2.830	lbs/hour
Average CD Emissions =	24794	lbs/yr
Average CD Emissions =	12.40	tons/yr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: CD Refining Column Jet
TEMPO ID: EQT0139
Point Source ID No.: 1700-20 *Page* 3 *of* 5

Toluene

Using given information,

Average Toluene Emissions = 0.0001 cfm toluene

Using the Ideal Gas Law,

Average Toluene Emissions =	0.0000001	moles/minute
Average Toluene Emissions =	0.000013	lbs/minute
Average Toluene Emissions =	0.0008	lbs/hour
Average Toluene Emissions =	7	lbs/yr
Average Toluene Emissions =	0.003	tons/yr

Ammonia

Using given information,

Average Ammonia Emissions = *0.000003 cfm ammonia*

Using the Ideal Gas Law,

Average Ammonia Emissions =	0.00000001	moles/minute
Average Ammonia Emissions =	0.0000001	lbs/minute
Average Ammonia Emissions =	0.000008	lbs/hour
Average Ammonia Emissions =	0.07	lbs/yr
Average Ammonia Emissions =	0.00004	tons/yr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: CD Refining Column Jet
TEMPO ID: EQT0139
Point Source ID No.: 1700-20 *Page* 4 *of* 5

Maximum Emission Rates

NOx

Using given information,

Maximum NOx Emissions = 0.1157 cfm CD

Using the Ideal Gas Law,

Maximum NOx Emissions = 0.000300 moles/minute
Maximum NOx Emissions = 0.013806 lbs/minute
Maximum NOx Emissions = 0.828 lbs/hour

Chloroprene

Using given information,

Maximum CD Emissions = 0.2259 cfm CD

Using the Ideal Gas Law,

Maximum CD Emissions = 0.000586 moles CD/minute
Maximum CD Emissions = 0.051891 lbs CD/minute
Maximum CD Emissions = 3.113 lbs CD/hour

Toluene

Using given information,

Maximum Toluene Emissions = 0.0001 cfm toluene

Using the Ideal Gas Law,

Maximum Toluene Emissions = 0.0000002 moles/minute
Maximum Toluene Emissions = 0.00001 lbs/minute
Maximum Toluene Emissions = 0.0009 lbs/hour

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: CD Refining Column Jet
TEMPO ID: EQT0139
Point Source ID No.: 1700-20

Ammonia

Using given information,

Maximum Ammonia Emissions = 0.000003 cfm ammonia

Using the Ideal Gas Law,

Maximum Ammonia Emissions = 0.00000001 moles/minute
Maximum Ammonia Emissions = 0.0000002 lbs/minute
Maximum Ammonia Emissions = 0.000009 lbs/hour

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
NOx	6597	0.753	0.828	3.298
Total VOC	24801	2.831	3.114	12.401
Chloroprene	24794	2.830	3.113	12.397
Toluene	7	0.001	0.001	0.003
Ammonia	0.07	0.000008	0.000009	0.00004
Total HAPs	24801	2.831	3.114	12.401
Total TAPs	24801	2.831	3.114	12.401

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: CD Refining Column Jet (Spare)
TEMPO ID: EQT0140
Point Source ID No.: 1700-20A

Basis:

Emissions are based on sampling data on March 12, 2002 and March 21, 2002 by METCO Environmental.
On March 12, 2002 type AD was being produced, which includes toluene.
On March 21, 2002 type WHV was being produced which does not inlcude toluene.
The highest vent rate measured is 4.584 dscfm.
The highest NOx concentration measured is 22945.5 ppmv.
The highest chloroprene (CD) concentration measured is 44807 ppmv.
The highest toluene concentration measured is 12 ppmv.
Ammonia was measured at less than 0.68 ppmv. Conservatively assume a concentration of 0.68 ppmv.
The maximum concentrations are estimated to be 10% greater than the maximum measured concentration.
Calculation basis provided by Mr. P. Offut, DuPont

Vent Rate =	4.584	cfm
Amount of Time Venting =	8760	hours/yr
Average NOx in Air Vented =	22945.5	ppm NOx by volume
Maximum NOx in Air Vented =	25240	ppm NOx by volume
Average CD in Air Vented =	44807	ppm CD by volume
Maximum CD in Air Vented =	49288	ppm CD by volume
Avg. Toluene in Air Vented =	12	ppm toluene by volume
Max. Toluene in Air Vented =	13.2	ppm toluene by volume
Avg. Ammonia in Air Vented =	0.68	ppm ammonia by volume
Max. Ammonia in Air Vented =	0.75	ppm ammonia by volume
Molecular Weight of NOx =	46	lb/lb-mole
Molecular Weight of CD =	88.54	lb/lb-mole
Molecular Weight of Toluene =	92.4	lb/lb-mole
Molecular Weight of Ammonia =	17	lb/lb-mole
Temperature =	20	°C
Pressure =	14.696	psia

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: CD Refining Column Jet (Spare)
TEMPO ID: EQT0140
Point Source ID No.: 1700-20A

Average Emission Rates

NOx

Using given information,

Average NOx Emissions =	0.11	cfm NOx

Using the Ideal Gas Law,

Average NOx Emissions =	0.000273	moles/minute
Average NOx Emissions =	0.012551	lbs/minute
Average NOx Emissions =	0.753	lbs/hour
Average NOx Emissions =	6597	lbs/yr
Average NOx Emissions =	3.30	tons/yr

Chloroprene

Using given information,

Average CD Emissions =	0.2054	cfm CD

Using the Ideal Gas Law,

Average CD Emissions =	0.000533	moles/minute
Average CD Emissions =	0.047173	lbs/minute
Average CD Emissions =	2.830	lbs/hour
Average CD Emissions =	24794	lbs/yr
Average CD Emissions =	12.40	tons/yr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: CD Refining Column Jet (Spare)
TEMPO ID: EQT0140
Point Source ID No.: 1700-20A

Toluene

Using given information,

Average Toluene Emissions = 0.0001 cfm toluene

Using the Ideal Gas Law,

Average Toluene Emissions =	0.0000001	moles/minute
Average Toluene Emissions =	0.000013	lbs/minute
Average Toluene Emissions =	0.0008	lbs/hour
Average Toluene Emissions =	7	lbs/yr
Average Toluene Emissions =	0.003	tons/yr

Ammonia

Using given information,

Average Ammonia Emissions = 0.000003 cfm ammonia

Using the Ideal Gas Law,

Average Ammonia Emissions =	0.00000001	moles/minute
Average Ammonia Emissions =	0.0000001	lbs/minute
Average Ammonia Emissions =	0.000008	lbs/hour
Average Ammonia Emissions =	0.07	lbs/yr
Average Ammonia Emissions =	0.00004	tons/yr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: CD Refining Column Jet (Spare)
TEMPO ID: EQT0140
Point Source ID No.: 1700-20A

Maximum Emission Rates

NOx

Using given information,

Maximum NOx Emissions = 0.1157 cfm CD

Using the Ideal Gas Law,

Maximum NOx Emissions = 0.000300 moles/minute
Maximum NOx Emissions = 0.013806 lbs/minute
Maximum NOx Emissions = 0.828 lbs/hour

Chloroprene

Using given information,

Maximum CD Emissions = 0.2259 cfm CD

Using the Ideal Gas Law,

Maximum CD Emissions = 0.000586 moles CD/minute
Maximum CD Emissions = 0.051891 lbs CD/minute
Maximum CD Emissions = 3.113 lbs CD/hour

Toluene

Using given information,

Maximum Toluene Emissions = 0.0001 cfm toluene

Using the Ideal Gas Law,

Maximum Toluene Emissions = 0.0000002 moles/minute
Maximum Toluene Emissions = 0.00001 lbs/minute
Maximum Toluene Emissions = 0.0009 lbs/hour

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: CD Refining Column Jet (Spare)
TEMPO ID: EQT0140
Point Source ID No.: 1700-20A

Ammonia

Using given information,

Maximum Ammonia Emissions = 0.000003 cfm ammonia

Using the Ideal Gas Law,

Maximum Ammonia Emissions = 0.00000001 moles/minute
Maximum Ammonia Emissions = 0.0000002 lbs/minute
Maximum Ammonia Emissions = 0.000009 lbs/hour

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
NOx	6597	0.753	0.828	3.298
Total VOC	24801	2.831	3.114	12.401
Chloroprene	24794	2.830	3.113	12.397
Toluene	7	0.001	0.001	0.003
Ammonia	0.07	0.000008	0.000009	0.00004
Total HAPs	24801	2.831	3.114	12.401
Total TAPs	24801	2.831	3.114	12.401

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Product Drying Cap
TEMPO ID: GRP0007
Point Source ID No.: 1700-25A

Basis:

For Washbelt and Dryer emissions, use analytical data for CD in stripped emulsion collected for 1996 Title V calculations and lbs of unstripped emulsion to the finishing lines and WD production for chloroprene (CD) and ACR emissions and AD production for toluene emissions.
Cap covers 1700-25, East Wash Belt Dryer, 1700-26, West Wash Belt Dryer, 1700-27, East Dryer Hot Exhaust, 1700-28, West Dryer Hot Exhaust, 1700-45, No. 1 East Dryer Cooling Compartment, 1700-46, No. 1 West Dryer Cooling Comopartment, 1700-47, No. 2 East Dryer Cooling Compartment, and 1700-48, No. 2 West Dryer Cooling Compartment.
Calculation basis provided by Mr. P. Offut, DuPont

% VOC Emissions from Washbelt =	16.35 %
% VOC Emissions from Dryer =	83.65 %
Total VOC in Stripped Emulsion =	136416 lbs/yr
CD in Stripped Emulsion =	113680 lbs/yr in worst emitting product
ACR in Stripped Emulsion =	22736 lbs/yr in worst emitting product
Max. Toluene in Stripped Emulsion =	46130 lbs/yr
Operating Hours =	8760 hours/yr

Wash Belt Calculations

Emission Rates

Emissions = Total in Stripped Emulsion / Operating Hours

Calculate total emissions from the washbelts and dryers

CD Emissions =	12.98 lbs/hr
ACR Emissions =	2.60 lbs/hr
Toluene Emissions =	5.27 lbs/hr

Calculate total emissions from the washbelts

CD Emissions =	2.12 lbs/hr
CD Emissions =	18586 lb/yr
CD Emissions =	9.29 tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Product Drying Cap
TEMPO ID: GRP0007
Point Source ID No.: 1700-25A

ACR Emissions =	0.42 lbs/hr
ACR Emissions =	3717 lb/yr
ACR Emissions =	1.86 tpy
Toluene Emissions =	0.86 lbs/hr
Toluene Emissions =	7542 lb/yr
Toluene Emissions =	3.77 tpy

Dryer Calculations

Emission Rates

Emissions = Total in Stripped Emulsion / Operating Hours

Calculate total emissions from the washbelts and dryers

CD Emissions =	12.98 lbs/hr
ACR Emissions =	2.60 lbs/hr
Toluene Emissions =	5.27 lbs/hr

Calculate total emissions from the dryer vents

CD Emissions =	10.86 lbs/hr
CD Emissions =	95093 lb/yr
CD Emissions =	47.55 tpy
ACR Emissions =	2.17 lbs/hr
ACR Emissions =	19019 lb/yr
ACR Emissions =	9.51 tpy
Toluene Emissions =	4.41 lbs/hr
Toluene Emissions =	38588 lb/yr
Toluene Emissions =	19.29 tpy
1,2-Dichlorobenzene Emissions =	0.01 lbs/hr
1,2-Dichlorobenzene Emissions =	60 lb/yr
1,2-Dichlorobenzene Emissions =	0.03 tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Product Drying Cap
TEMPO ID: GRP0007
Point Source ID No.: 1700-25A

Cooling Compartment Calculations

Effectively all VOC is expected to be removed in the wash belts and dryers. Therefore, VOC emissions from the cooling compartments are expected to be <0.01 tpy.

Summary

Toluene is potentially emitted at a level of 23.36 tpy, although it is not present in the worst case product.
Therefore, toluene totals are not part of the annual VOC emission totals and are calculated only for reference.

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	136416	15.573	15.573	68.208
Chloroprene	113680	12.977	12.977	56.840
1,2-Dichlorobenze	60	0.007	0.007	0.030
Toluene	46130	5.266	5.266	23.065
Total HAPs	159870	18.250	18.250	79.935
Total TAPs	159870	18.250	18.250	79.935

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: East Wash Belt Dryer
TEMPO ID: EQT0142
Point Source ID No.: 1700-25

Basis:

For Washbelt and Dryer emissions, use analytical data for CD in stripped emulsion collected for 1996 Title V calculations and lbs of unstripped emulsion to the finishing lines and WD production for chloroprene (CD) and ACR emissions and AD production for toluene emissions.
Total emissions for the wash belts are covered under 1700-25A, Product Drying Cap.
Assumes full throughput for each drying line.
Calculation basis provided by Mr. P. Offut, DuPont

% VOC Emissions from Washbelt =	16.35 %
% VOC Emissions from Dryer =	83.65 %
Total VOC in Stripped Emulsion =	136416 lbs/yr
CD in Stripped Emulsion =	113680 lbs/yr in worst emitting product
ACR in Stripped Emulsion =	22736 lbs/yr in worst emitting product
Max. Toluene in Stripped Emulsion =	46130 lbs/yr
Operating Hours =	8760 hours/yr

Average Emission Rates

Average Emissions = Total in Stripped Emulsion / Operating Hours

Calculate total emissions from the washbelts and dryers

Average CD Emissions =	12.98 lbs/hr
Average ACR Emissions =	2.60 lbs/hr
Average Toluene Emissions =	5.27 lbs/hr

Calculate total emissions from the washbelts

Average CD Emissions =	2.12 lbs/hr
Average CD Emissions =	18586 lb/yr
Average CD Emissions =	9.29 tpy
Average ACR Emissions =	0.42 lbs/hr
Average ACR Emissions =	3717 lb/yr
Average ACR Emissions =	1.86 tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: East Wash Belt Dryer
TEMPO ID: EQT0142
Point Source ID No.: 1700-25

Average Toluene Emissions = 0.86 lbs/hr
Average Toluene Emissions = 7542 lb/yr
Average Toluene Emissions = 3.77 tpy

Maximum Emission Rates

Maximum emission rates are equal to average rates.

Summary

Toluene is potentially emitted at a level of 3.82 tpy, although it is not present in the worst case product.
Therefore, toluene totals are not part of the annual VOC emission totals and are calculated only for reference.

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	22304	2.546	2.546	11.152
Chloroprene	18586	2.122	2.122	9.293
Toluene	7542	0.861	0.861	3.771
Total HAPs	26129	2.983	2.983	13.064
Total TAPs	26129	2.983	2.983	13.064

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: West Wash Belt Dryer
TEMPO ID: EQT0143
Point Source ID No.: 1700-26

Basis:

For Washbelt and Dryer emissions, use analytical data for CD in stripped emulsion collected for 1996 Title V calculations and lbs of unstripped emulsion to the finishing lines and WD production for chloroprene (CD) and ACR emissions and AD production for toluene emissions.
Total emissions for the wash belts are covered under 1700-25A, Product Drying Cap.
Assumes full throughput for each drying line.
Calculation basis provided by Mr. P. Offut, DuPont

% VOC Emissions from Washbelt =	16.35 %
% VOC Emissions from Dryer =	83.65 %
Total VOC in Stripped Emulsion =	136416 lbs/yr
CD in Stripped Emulsion =	113680 lbs/yr in worst emitting product
ACR in Stripped Emulsion =	22736 lbs/yr in worst emitting product
Max. Toluene in Stripped Emulsion =	46130 lbs/yr
Operating Hours =	8760 hours/yr

Average Emission Rates

Average Emissions = Total in Stripped Emulsion / Operating Hours

Calculate total emissions from the washbelts and dryers

Average CD Emissions =	12.98 lbs/hr
Average ACR Emissions =	2.60 lbs/hr
Average Toluene Emissions =	5.27 lbs/hr

Calculate total emissions from the washbelts

Average CD Emissions =	2.12 lbs/hr
Average CD Emissions =	18586 lb/yr
Average CD Emissions =	9.29 tpy
Average ACR Emissions =	0.42 lbs/hr
Average ACR Emissions =	3717 lb/yr
Average ACR Emissions =	1.86 tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: West Wash Belt Dryer
TEMPO ID: EQT0143
Point Source ID No.: 1700-26

Average Toluene Emissions = 0.86 lbs/hr
Average Toluene Emissions = .7542 lb/yr
Average Toluene Emissions = 3.77 tpy

Maximum Emission Rates

Maximum emission rates are equal to average rates.

Summary

Toluene is potentially emitted at a level of 3.82 tpy, although it is not present in the worst case product.
Therefore, toluene totals are not part of the annual VOC emission totals and are calculated only for reference.

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	22304	2.546	2.546	11.152
Chloroprene	18586	2.122	2.122	9.293
Toluene	7542	0.861	0.861	3.771
Total HAPs	26129	2.983	2.983	13.064
Total TAPs	26129	2.983	2.983	13.064

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: East Hot Dryer Exhaust
TEMPO ID: EQT0144
Point Source ID No.: 1700-27 *Page* 1 *of* 2

Basis:

For Washbelt and Dryer emissions, use analytical data for CD in stripped emulsion collected for 1996 Title V calculations and lbs of unstripped emulsion to the finishing lines and WD production for chloroprene (CD) and ACR emissions and AD production for toluene emissions.
Total emissions for the dryer exhausts are covered under 1700-27A, Dryer Exhaust Cap.
Assumes full throughput for each drying line.
Calculation basis provided by Mr. P. Offut, DuPont
Based on mass balances, approximately 60 lb/yr of 1,2-dichlorobenzene is emitted from the driers.

% VOC Emissions from Washbelt =	16.35	%
% VOC Emissions from Dryer =	83.65	%
Total VOC in Stripped Emulsion =	136416	lbs/yr
CD in Stripped Emulsion =	113680	lbs/yr in worst emitting product
ACR in Stripped Emulsion =	22736	lbs/yr in worst emitting product
Max. Toluene in Stripped Emulsion =	46130	lbs/yr
Operating Hours =	8760	hours/yr

Average Emission Rates

Average Emissions = Total in Stripped Emulsion / Operating Hours

Calculate total emissions from the washbelts and dryers

Average CD Emissions =	12.98	lbs/hr
Average ACR Emissions =	2.60	lbs/hr
Average Toluene Emissions =	5.27	lbs/hr

Calculate total emissions from the dryer vents

Average CD Emissions =	10.86	lbs/hr
Average CD Emissions =	95093	lb/yr
Average CD Emissions =	47.55	tpy
Average ACR Emissions =	2.17	lbs/hr
Average ACR Emissions =	19019	lb/yr
Average ACR Emissions =	9.51	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: East Hot Dryer Exhaust
TEMPO ID: EQT0144
Point Source ID No.: 1700-27 *Page* 2 *of* 2

Average Toluene Emissions = 4.41 lbs/hr
Average Toluene Emissions = 38588 lb/yr
Average Toluene Emissions = 19.29 tpy

Maximum Emission Rates

Maximum emission rates are equal to average rates.

Summary

Toluene is potentially emitted at a level of 19.54 tpy, although it is not present in the worst case product.
Therefore, toluene totals are not part of the annual VOC emission totals and are calculated only for reference.

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	114172	13.033	13.033	57.086
Chloroprene	95093	10.855	10.855	47.547
1,2-Dichlorobenze	60	0.007	0.007	0.030
Toluene	38588	4.405	4.405	19.294
Total HAPs	133741	15.267	15.267	66.871
Total TAPs	133741	15.267	15.267	66.871

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: West Hot Dryer Exhaust
TEMPO ID: EQT0145
Point Source ID No.: 1700-28 *Page* 1 *of* 2

Basis:

For Washbelt and Dryer emissions, use analytical data for CD in stripped emulsion collected for 1996 Title V calculations and lbs of unstripped emulsion to the finishing lines and WD production for chloroprene (CD) and ACR emissions and AD production for toluene emissions.
Total emissions for the dryer exhausts are covered under 1700-27A, Dryer Exhaust Cap.
Assumes full throughput for each drying line.
Calculation basis provided by Mr. P. Offut, DuPont
Based on mass balances, approximately 60 lb/yr of 1,2-dichlorobenzene is emitted from the driers.

% VOC Emissions from Washbelt =	16.35	%
% VOC Emissions from Dryer =	83.65	%
Total VOC in Stripped Emulsion =	136416	lbs/yr
CD in Stripped Emulsion =	113680	lbs/yr in worst emitting product
ACR in Stripped Emulsion =	22736	lbs/yr in worst emitting product
Max. Toluene in Stripped Emulsion =	46130	lbs/yr
Operating Hours =	8760	hours/yr

Average Emission Rates

Average Emissions = Total in Stripped Emulsion / Operating Hours

Calculate total emissions from the washbelts and dryers

Average CD Emissions =	12.98	lbs/hr
Average ACR Emissions =	2.60	lbs/hr
Average Toluene Emissions =	5.27	lbs/hr

Calculate total emissions from the dryer vents

Average CD Emissions =	10.86	lbs/hr
Average CD Emissions =	95093	lb/yr
Average CD Emissions =	47.55	tpy
Average ACR Emissions =	2.17	lbs/hr
Average ACR Emissions =	19019	lb/yr
Average ACR Emissions =	9.51	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: West Hot Dryer Exhaust
TEMPO ID: EQT0145
Point Source ID No.: 1700-28 *Page* 2 *of* 2

Average Toluene Emissions = 4.41 lbs/hr
Average Toluene Emissions = 38588 lb/yr
Average Toluene Emissions = 19.29 tpy

Maximum Emission Rates

Maximum emission rates are equal to average rates.

Summary

Toluene is potentially emitted at a level of 20.21 tpy, although it is not present in the worst case product.
Therefore, toluene totals are not part of the annual VOC emission totals and are calculated only for reference.

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	114172	13.033	13.033	57.086
Chloroprene	95093	10.855	10.855	47.547
1,2-Dichlorobenze	60	0.007	0.007	0.030
Toluene	38588	4.405	4.405	19.294
Total HAPs	133741	15.267	15.267	66.871
Total TAPs	133741	15.267	15.267	66.871

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 1 East Dryer Cooling Compartment
TEMPO ID: EQT0146
Point Source ID No.: 1700-45

Basis:

Effectively all VOC is expected to be removed in the wash belts and dryers. Therefore, VOC emissions from the cooling compartments are expected to be <0.01 tpy.

Summary

Compound	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	<0.01	<0.01	<0.01
Chloroprene	<0.01	<0.01	<0.01
Toluene	<0.01	<0.01	<0.01
Total HAPs	<0.01	<0.01	<0.01
Total TAPs	<0.01	<0.01	<0.01

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 1 West Dryer Cooling Compartment
TEMPO ID: EQT0147
Point Source ID No.: 1700-46 *Page* 1 *of* 1

Basis:

Effectively all VOC is expected to be removed in the wash belts and dryers. Therefore, VOC emissions from the cooling compartments are expected to be <0.01 tpy.

Summary

Compound	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	<0.01	<0.01	<0.01
Chloroprene	<0.01	<0.01	<0.01
Toluene	<0.01	<0.01	<0.01
Total HAPs	<0.01	<0.01	<0.01
Total TAPs	<0.01	<0.01	<0.01

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 2 East Dryer Cooling Compartment
TEMPO ID: EQT0148
Point Source ID No.: 1700-47

Basis:

Effectively all VOC is expected to be removed in the wash belts and dryers. Therefore, VOC emissions from the cooling compartments are expected to be <0.01 tpy.

Summary

Compound	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	<0.01	<0.01	<0.01
Chloroprene	<0.01	<0.01	<0.01
Toluene	<0.01	<0.01	<0.01
Total HAPs	<0.01	<0.01	<0.01
Total TAPs	<0.01	<0.01	<0.01

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 2 West Dryer Cooling Compartment
TEMPO ID: EQT0149
Point Source ID No.: 1700-48 *Page* 1 *of* 1

Basis:

Effectively all VOC is expected to be removed in the wash belts and dryers. Therefore, VOC emissions from the cooling compartments are expected to be <0.01 tpy.

Summary

Compound	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	<0.01	<0.01	<0.01
Chloroprene	<0.01	<0.01	<0.01
Toluene	<0.01	<0.01	<0.01
Total HAPs	<0.01	<0.01	<0.01
Total TAPs	<0.01	<0.01	<0.01

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Stabilizer Tanks Vent
TEMPO ID: GRP0009
Point Source ID No.: 1700-50 *Page* 1 *of* 3

Basis:

No. 1 Stabilizer Makeup tank is 1070 gallon capacity and used to makeup aqueous dispersion stabilizer which has no VOC emissions.
No. 2 Stabilizer Makeup tank is 1070 gallon capacity and used to makeup any type of stabilizer.
No. 3 and 4 Stabilizer Tanks are 2330 gallon capacity and used to makeup toluene base stabilizer for AD and G types.
No. 3 and 4 Stabilizer Tanks are also used to makeup Emergency Stablizer for the PK's (about once per quarter).
No. 5 Stabilizer Makeup tank is 1070 gallon capacity and used to makeup dispersion stabilizer which has no VOC emissions but will result in particulate emissions from the manhole vent..
Toluene is used for stabilizers for A-types, G-types, and emergency stabilizer.
Each of the 5 tanks is equipped with a nitrogen blanket regulator set at 1 psig.
All 5 tanks are piped to two common vent systems.
One vent system is equipped with a flame arrestor and vents to atmosphere during preparation of the stabilizers.
The second vent system is equipped with a backpressure regulator set at 2 psig and operates after stabilizer preparation.
The five PK stabilizer tanks are vented back to the second vent system to minimize emissions.
Since during operation, the PK stabilizer tanks vent back to the stabilizer makeup tanks there are no emissions when transferring from the makeup tanks to the PK stabilizer tanks.
Solid additives are added to the toluene based and aqueousdispersion stabilizers, resulting in particulate matter emissions.
When the manhole is open for solids addition, toluene vapors and particulates are captured by the manhole exhaust system (EID No.1700-14B).
Calculation basis provided by Mr. P. Offut, DuPont Performance Polymers.

Maximum Makeup Toluene =	502	lb/batch
Temperature =	35	C
Toluene Vapor Pressure =	46.77	mm Hg
Toluene Liquid Density =	53.21	lbs/ft3
H2O Vapor Pressure =	42.00	mm Hg
Toluene Flow Rate =	832	lbs/min
Toluene Flow Rate =	15.64	ft3/min
Vapor Displacement =	15.64	ft3/min
Maximum Toluene Required =	2915575	lb
Maximum Toluene Required =	54792	ft3/yr
Venting Time =	3504	min/yr
Venting Time =	58.40	hr/yr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Stabilizer Tanks Vent
TEMPO ID: GRP0009
Point Source ID No.: 1700-50 *Page* 2 *of* 3

VOC Emissions

Displacement Losses

Assuming worst case - vapor is saturated with toluene and H2O - and using the ideal gas law

Total Vapor =	0.002468	moles/ft3
Toluene Vapor =	0.000152	moles/ft3
Toluene Vapor =	0.014033	lbs toluene/ft3 total vapor
TolueneVapor =	0.219419	lbs toluene/min
H2O Vapor =	0.000136	moles/ft3
H2O Vapor =	0.002455	lbs H2O/ft3 total vapor
H2O Vapor =	0.038382	lbs H2O/min
N2 Vapor =	0.002180	moles/ft3
N2 Vapor =	0.061027	lbs N2/ft3 total vapor

Venting from Stabilizer Tanks

Toluene Vapor =	0.22	lb/min
Toluene Vapor =	769	lbs/yr
Toluene Vapor =	13.17	lb/hr
H2O Vapor =	135	lbs/yr
N2 Vapor =	3344	lbs/yr

Type Change Emissions

When a G or AD campaign is complete, the toluene based stabilizer tank is depressured, the heel is drained to drums, and the tank is cleaned.
For the worst case, assume each type change of G type requires tank cleaning, the tank is at 2 psig, and the nitrogen is is saturated with toluene and water, and the entire volume of the tank is discharged to atmosphere.
Assume depressuring occurs within 1 minute.

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Stabilizer Tanks Vent
TEMPO ID: GRP0009
Point Source ID No.: 1700-50

G or AD -type changes/yr =	37	
Venting Time =	1	min/type change
Volume of No. 3 or 4 Tank =	311	ft3
Total Volume Vented =	623	ft3 @ 2psig
Total Volume Vented =	708	ft3 @ 0 psig
Toluene Vented =	367	lbs/yr
Toluene Vented =	9.93	lb/min
Toluene Vented =	595.89	lb/hr

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	1136	19.253	595.885	0.568
Toluene	1136	19.253	595.885	0.568
Total HAPs	1136	19.253	595.885	0.568
Total TAPs	1136	19.253	595.885	0.568

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Inhibitor Mix Tank
TEMPO ID: EQT0162
Point Source ID No.: 1700-51 *Page* 1 *of* 2

Basis:

Inhibitor is made by dissolving PTZ and NDPA in Crude CD
The aim limits are 0.75% PTZ and 0.25% NDPA
Inhibitor is produced in the Inhibitor Makeup Tank (IMUT) located in Poly Building
The batches are pumped to the Final Makeup Tank (FMUT), which is covered under EID No. 1700-63, Vent Header System.
Calculation basis provided by Mr. P. Offut, DuPont

CD Supply Rate =	75	lbs/min
Amount of Inhibitor Produced =	4828384	lbs/yr
Temperature =	1.0	C
Specific Gravity of Inhibitor =	61.655	lbs/ft3
Vapor Pressure of CD =	84.06	mm Hg
Molecular Weight of CD =	88.54	lb/lb-mole
Max. Mole Fraction CD =	1.0	mole/mole

Emission Rates

IMUT Tank data

Total Volume of Tank =	88	ft3
Crude CD in tank at 85% level =	3384	lbs
Crude CD in tank at 85% level =	55	ft3
Vapor space in tank at 85% level =	33	ft3
Tank Charging Time =	63565	min/yr
Tank Charging Rate =	1.22	ft3/min
Number of Sub Batches =	1427	sub batches/yr
Amount of CD per Sub Batch =	3384	lbs CD/sub batch pumped
Amount of CD per Sub Batch =	55	ft3 CD/sub batch pumped

Nitrogen supply pressure is controlled at 8 inwg and vent backpressure at 14 inwg.

N2 Supply to Vent =	0.2890	psig
Backpressure Vent Valve Setting =	0.5058	psig

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Inhibitor Mix Tank
TEMPO ID: EQT0162
Point Source ID No.: 1700-51 *Page* 2 *of* 2

For CD saturated nitrogen at 1 C and using the ideal gas law,

Total Vapor =	0.00286909	moles/ft3
CD Vapor =	0.00030676	moles/ft3
CD Vapor =	0.02716085	lbs CD/ft3 total vapor
Total Amount Vented =	55	ft3/sub batch pumped
Venting Rate =	1.22	ft3/min
CD Venting Rate =	0.03	lb/min
CD Venting Rate =	1.99	lb/hr
CD vented =	1.49	lbs CD/sub batch
CD vented =	2127	lbs CD/yr
CD vented =	1.06	tons CD/yr

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	2127	1.988	1.988	1.064
Chloroprene	2127	1.988	1.988	1.064
Total HAPs	2127	1.988	1.988	1.064
Total TAPs	2127	1.988	1.988	1.064

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Unstripped Storage Tanks Manual Vent
TEMPO ID: RLP0016
Point Source ID No.: 1700-56 *Page* 1 *of* 3

Basis:

Unstripped emulsion tanks 6, 7, 8, 10, 13, and 14 are normally vented to the pressure balancing common vent header / tank system.
To prevent backflow to other tanks resulting from venting down during product changes, the tanks are isolated from the common vent system and directed to a bypass vent to atmosphere.
Tanks 6, 7, 8, and 10 store dry type emulsions.
Tanks 13 and 14 store liquid type products.
Venting time is approximately 1 minute.
Vapor pressure of chloroprene (CD) is based on worst case product.
Calculation basis provided by Mr. P. Offut, DuPont

Number of Vent Downs =	25	vent downs/yr/tank for dry types
Number of Vent Downs =	50	vent downs/yr/tank for LD types
EST 10 Total Volume =	2400	ft3
EST 7 or 8 Total Volume =	2025	ft3
EST 6, 13, or 14 Total Volume =	1545	ft3
Maximum Pressure =	5	psig
Molecular Weight of CD =	88.54	lb/lb-mole
Molecular Weight of Toluene =	92.14	lb/lb-mole
Molecular Weight of ACR =	122.99	lb/lb-mole
Temperature =	25	°C
Atmospheric Pressure =	14.696	psia

Average Emission Rates

Calculate vented volume

No. 10 Vented Volume =	817	ft3/vent down from 5 psig to 0 psig
No. 7 or 8 Vented Volume =	689	ft3/vent down from 5 psig to 0 psig
No. 6, 13 or 14 Vented Volume=	526	ft3/vent down from 5 psig to 0 psig

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Unstripped Storage Tanks Manual Vent
TEMPO ID: RLP0016
Point Source ID No.: 1700-56 *Page* 2 *of* 3

Using worst case of nitrogen saturated with H2O, toluene, ACR and Slocum CD data

Vapor Pressure of Water =	23.6	mm Hg
Total Vapor =	0.002550	moles/ft3
Vapor Pressure of CD =	189	mm Hg
CD Vapor =	0.000473	moles/ft3
CD Vapor =	0.041902	lbs CD/ft3 total vapor
Vapor Pressure of Toluene =	28.40	mm Hg
Toluene Vapor =	0.000071	moles/ft3
Toluene Vapor =	0.006553	lbs toluene/ft3 total vapor
Vapor Pressure of ACR =	42.28	mm Hg
ACR Vapor =	0.000106	moles/ft3
ACR Vapor =	0.013020	lbs ACR/ft3 total vapor
H2O Vapor =	0.000079	moles/ft3
H2O Vapor =	0.001426	lbs H2O/ft3 total vapor
Nitrogen Vapor =	0.001998	moles/ft3
Nitrogen Vapor =	0.057943	lbs N2/ft3 total vapor

No. 10 EST Vapor Vented =	20414	ft3/yr
No. 10 EST CD Vented =	855	lb/yr
No. 10 EST Toluene Vented =	134	lb/yr
No. 10 EST ACR Vented =	266	lb/yr
No. 7 or 8 EST Vapor Vented =	17224	ft3/yr
No. 7 or 8 EST CD Vented =	722	lb/yr
No. 7 or 8 EST Toluene Vented =	113	lb/yr
No. 7 or 8 EST ACR Vented =	224	lb/yr
No 6 EST Vapor Vented =	13141	ft3/yr
No 6 EST CD Vented =	551	lb/yr
No 6 EST Toluene Vented =	86	lb/yr
No 6 EST ACR Vented =	171	lb/yr
No. 13 & 14 EST Vapor Vented =	52565	ft3 CD/yr
No. 13 & 14 EST CD Vented =	2203	lb/yr
No. 13 & 14 EST Toluene Vented =	344	lb/yr
No. 13 & 14 EST ACR Vented =	684	lb/yr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Unstripped Storage Tanks Manual Vent
TEMPO ID: RLP0016
Point Source ID No.: 1700-56 *Page* 3 *of* 3

Total CD Emitted =	4330	lb/yr
Total Toluene Emitted =	677	lb/yr
Total ACR Emitted =	1346	lb/yr
Venting Time Per Event =	1	min
Average CD Emission Rate =	1484.69	lb/hr
Average Toluene Emission Rate =	232.18	lb/hr
Average ACR Emission Rate =	461.32	lb/hr

Maximum Emission Rates

Maximum emission rates are equal to the average rates.

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	6353	2178.189	2178.189	3.177
Chloroprene	4330	1484.685	1484.685	2.165
Toluene	677	232.181	232.181	0.339
Total HAPs	5008	1716.866	1716.866	2.504
Total TAPs	5008	1716.866	1716.866	2.504

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: 1712 Building Common Vent Header System
TEMPO ID: GRP0010
Point Source ID No.: 1700-63 *Page* 1 *of* 4

Basis:

The Refined CD Storage Tank, No. 3 Crude CD Storage Tank, CD Inhibitor FMUT, CD Inhibitor HUT, No 1 and No. 2 RCD tanks, CD Refining Column Heels tank, and No. 1 and No. 2 Monomer Solution Tanks all vent into a common vent header, which minimizes emissions as one tank or another fills, venting into the other tanks.
Actual operating data of the common vent system for the past two years show that under normal operating conditions, the system vents very little to none.
Emissions are calculated by estimating and summing up the time for abnormal operations where tank levels will vary significantly and Poly can keep running.
It is conservatively estimated that operating conditions will result in emissions for 10% of the year in addition to maintenance requirements.
Calculation basis provided by Mr. P. Offut, DuPont
Based on mass balances, approximately 2 lb/yr of 1,2-dichlorobenzene is emitted from the Column Heels Tank.

Crude CD Specific Gravity =	60.924	lbs/ft3
Refined CD Pumped =	139871804	lb/yr considering worst case product
Recovered CD Pumped =	50529656	lb/yr considering worst case product
Vapor Temperature =	5	C
Vapor Temperature =	501	R
Header Inlet Pressure =	4.5	psig
Header Inlet Pressure =	19.196	psia
Header Outlet Pressure =	0	psig
Header Outlet Pressure =	14.696	psia
Gas Cv for Valve (100% open) =	816	
Cg/Cv Gas/Liquid Cv for Valve =	36.1	
Vapor Pressure of CD =	100.671	mm Hg
Molecular Weight of CD =	88.54	lb/lb-mole
Max. Mole Fraction CD =	1	mole/mole
Vapor Pressure of Toluene =	9.189	mm Hg
Molecular Weight of Toluene =	92.14	lb/lb-mole
Max. Mole Fraction Toluene =	0.036	mole/mole
Vapor Pressure of ACR =	15.538	mm Hg
Molecular Weight of ACR =	122.99	lb/lb-mole
Max. Mole Fraction ACR =	0.009	mole/mole
Operating Time =	6679	hr considering worst case product
Unschd Column Maint Down Days =	5	/yr
Column Water Washes =	9	/yr
Other Venting =	668	hrs/yr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: 1712 Building Common Vent Header System
TEMPO ID: GRP0010
Point Source ID No.: 1700-63 *Page* 2 *of* 4

Emission Rates

Estimate transfer rates

Total Crude CD Pumped =	95296213	lbs/yr
Hours Flow =	6679	hr

Based on the common vent header design, maximum flow occurs with the backpressure valve fully open and a differential pressure of 4.5 psig and temperature of 5 C
Conservatively, assuming nitrogen saturated with CD at 1 C liquid temperature and using the ideal gas law,

Total vapor =	0.001284	moles/ft3
CD vapor =	0.000130	moles/ft3
CD vapor =	0.011525	lbs CD/ft3 total vapor @ 5 psig
CD vapor =	0.008823	lbs CD/ft3 total vapor @ 0 psig
Toluene vapor =	0.000000	moles/ft3
Toluene vapor =	0.000022	lbs toluene/ft3 total vapor @ 5 psig
Toluene vapor =	0.000017	lbs toluene/ft3 total vapor @ 0 psig
ACR vapor =	0.000000	moles/ft3
ACR vapor =	0.000021	lbs ACR/ft3 total vapor @ 5 psig
ACR vapor =	0.000016	lbs ACR/ft3 total vapor @ 0 psig

$$Q = ((520 / (1.18 \times Temp))^{0.5}) \times (Gas\ Cv \times Inlet\ Pressure) \times SIN((\pi/180) \times (3417/Gas/Liquid\ Cv) \times (((Inlet\ Pressure - Outlet\ Pressure)/Inlet\ Pressure)^{0.5}))/60$$

Gas Flow = 176 scfm with 100% valve open

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: 1712 Building Common Vent Header System
TEMPO ID: GRP0010
Point Source ID No.: 1700-63 *Page* 3 *of* 4

Equal percentage valve flow characteristics

% open	% full flow	scfm	lbs/hr CD	lbs/hr tol	lbs/hr ACR	lbs/hr VOC
100	100	186	98.46	0.19	0.18	98.83
90	86	160	84.59	0.16	0.15	84.91
80	65	121	63.95	0.12	0.12	64.19
70	43	81	42.80	0.08	0.08	42.96
60	29	54	28.59	0.06	0.05	28.70
50	19	36	19.12	0.04	0.03	19.19
40	13	25	13.20	0.03	0.02	13.25
30	9	17	8.80	0.02	0.02	8.83
20	6	11	5.92	0.01	0.01	5.94
10	4	8	4.06	0.01	0.01	4.08

5 Unschd Column Maint Down Days per Year =	120	hrs/yr
9 Column Water Washes per Year =	216	hrs/yr
Other Venting =	668	hrs/yr
Total =	1004	hrs/yr

For column down time, assume that Poly continues to run at average rates from the refined CD tank and that refill of the refined tank results in the venting. To be conservative, do not back out amount that would be compressed.
Also assume that during these outages the strippers continue to run at average rate and RCD results in venting. To be conservative, do not back out amount that would be compressed.

Amount Refined CD to Refill =	21024018	lbs/yr
Amount RCD Displacing Vapor =	7595072	lbs/yr
Total Displacement =	28619090	lbs/yr
Total Displacement =	469751	ft3/yr vapor
Total Displacement =	7.80	ft3/min vapor
Total CD =	5414	lbs/yr CD
Total CD =	5.39	lbs/hr CD
Total Toluene =	10	lbs/yr toluene
Total Toluene =	0.01	lbs/hr toluene
Total ACR =	10	lbs/yr ACR
Total ACR =	0.01	lbs/hr ACR

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: 1712 Building Common Vent Header System
TEMPO ID: GRP0010
Point Source ID No.: 1700-63 *Page* 4 *of* 4

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	5434	5.413	98.834	2.717
Chloroprene	5414	5.393	98.465	2.707
1,2-Dichlorobenze	2	0.003	0.055	0.001
Toluene	10	0.010	0.190	0.005
Total HAPs	5426	5.406	98.709	2.713
Total TAPs	5426	5.406	98.709	2.713

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Water Solution Exhaust Fan
TEMPO ID: EQT0183
Point Source ID No.: 1700-64 *Page* 1 *of* 4

Basis:

Based on 10 hr TWA area data developed between 1999 and 2001, the average concentration of CD in the building air is 0.56 ppmv.
Monitoring data for toluene between February 2001 and September 2002 indicate an average concentration of 0.176 ppm.
3500 lb/yr of dextrose, 203 M lb/yr of sodium sulfite, 4665 lb sodium chloride are added manually from cartons and bags to water solution makeup tank.
Estimated that 0.1% of the material transferred becomes airborne.
Estimated that 50% of the airborne dust is captured by exhaust system. Remainder is captured in building.
Calculation basis provided by Mr. P. Offut, DuPont

Rated Capacity of Blower =	2500	cfm
Amount of Time Discharging =	8760	hours/yr
Average CD in Air Exhausted =	0.56	ppm CD by volume
Maximum CD in Air Exhausted =	0.67	ppm CD by volume
Avg. Toluene in Air Exhausted =	0.176	ppm toluene by volume
Max. Toluene in Air Exhausted =	3.1464	ppm toluene by volume
Molecular Weight of CD =	88.54	lb/lb-mole
Molecular Weight of Toluene =	92.4	lb/lb-mole
Temperature =	25	°C
Pressure =	14.696	psia
Dextrose used =	3500	lb/yr
Sodium Sulfite used =	203,000	lb/yr
Sodium Chloride used =	4665	lb/yr
Total Addition Time =	66	hours

Average Emission Rates

Chloroprene

Using given information,

Average CD Emissions =	0.0014	cfm CD

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Water Solution Exhaust Fan
TEMPO ID: EQT0183
Point Source ID No.: 1700-64

Using the Ideal Gas Law,

Average CD Emissions =	0.000004	moles/minute
Average CD Emissions =	0.000316	lbs/minute
Average CD Emissions =	0.019	lbs/hour
Average CD Emissions =	166	lbs/yr
Average CD Emissions =	0.08	tons/yr

Toluene

Using given information,

Average Toluene Emissions =	0.0004	cfm toluene

Using the Ideal Gas Law,

Average Toluene Emissions =	0.000001	moles/minute
Average Toluene Emissions =	0.000104	lbs/minute
Average Toluene Emissions =	0.006	lbs/hour
Average Toluene Emissions =	55	lbs/yr
Average Toluene Emissions =	0.03	tons/yr

Maximum Emission Rates

Chloroprene

Using given information,

Maximum CD Emissions =	0.0017	cfm CD

Using the Ideal Gas Law,

Maximum CD Emissions =	0.000004	moles CD/minute
Maximum CD Emissions =	0.000379	lbs CD/minute
Maximum CD Emissions =	0.023	lbs CD/hour

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Water Solution Exhaust Fan
TEMPO ID: EQT0183
Point Source ID No.: 1700-64 *Page* 3 *of* 4

Toluene

Using given information,

Maximum Toluene Emissions = 0.0079 cfm toluene

Using the Ideal Gas Law,

Maximum Toluene Emissions = 0.000020 moles/minute
Maximum Toluene Emissions = 0.001854 lbs/minute
Maximum Toluene Emissions = 0.111 lbs/hour

PM/PM-10 Emissions

Fraction Airborne = 0.1 %
Capture Efficiency = 50 %

PM/PM-10 Emissions = Process rate, lb/yr x Fraction Airborne x Capture Effiency / 8760 hr/yr

= 211165 lb/yr x 0.1% x 50% / 8760 hr/yr
= 0.0121 lb/hr
0.05 tpy

Maximum Emission Rates

Fraction Airborne = 0.1 %
Capture Efficiency = 50 %

PM/PM-10 Emissions = Process rate, lb/yr x Fraction Airborne x Capture Effiency /40 hr/yr

= 211165 lb/yr x 0.1% x 50% / 66 hr/yr
= 1.564 lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Water Solution Exhaust Fan
TEMPO ID: EQT0183
Point Source ID No.: 1700-64

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
PM/PM-10	106	0.0121	1.564	0.053
Total VOC	221	0.025	0.134	0.110
Chloroprene	166	0.019	0.023	0.083
Toluene	55	0.006	0.111	0.027
Total HAPs	221	0.025	0.134	0.110
Total TAPs	221	0.025	0.134	0.110

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 10 Emulsion Tank Manway
TEMPO ID:
Point Source ID No.: 1700-65 *Page* 1 *of* 3

Basis:

EST 10 is located outside of the main Poly building. The manway is not ventilated, so any emissions exit to atmosphere from the manway.
Emissions occur when the tank is opened for cleaning or maintenance.
EST 10 is a dry type unstripped emulsion storage tank, which is opened for inspection at every product type change, assume 4 non-compatile type changes / month. This tank requires cleaning once monthly, generally after G campaigns. Inspections last 15 minutes.
When manways opened for inspection, tanks are already vented down via point source 1700-56. Manway will be open for perhaps 15 minutes while tank wall condition is observed for fouling
Assume 1% of tank vapor content is emitted through convection to atmosphere during inspection, since there is no motive force to displace vapor from inside the tank
When vessel entry is required to these tanks for cleaning, an air mover is used to evacuate the vapor contents of the tank, replacing it with an air atmosphere. This can take up to 6 hours.
Calculation basis provided by Mr. D. McCrea DuPont
Formerly under EID No. 1700-1 (EQT0134).

Volume EST 10 =	2400	cub ft
Ambient temperature =	25	deg C
Pressure =	14.696	psia

For worst case scenarios, assuming equilibrium in tank before emptying.
ACR and toluene not present in > 80% time, but counted as if they were.

Using the Ideal Gas Law, **Loss during inspections of EST 10**

Vapor content of EST 10 =	6.121	lb moles	
EST 10 vapor density =	0.0026	lb moles / cub ft	
Inspection of EST 10 =	36	per year	
Loss to atmosphere =	0.061	lb moles	
CD in vapor lost =	0.01522	lb moles	per inspection
CD in vapor lost =	1.3478	lb	per inspection
CD lost during inspections =	48.521	lb / year	
Toluene in vapor lost =	0.00229	lb moles	per inspection
Toluene in vapor lost =	0.2114	lb	per inspection
Toluene lost during inspections =	7.609	lb / year	

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 10 Emulsion Tank Manway
TEMPO ID:
Point Source ID No.: 1700-65 *Page* 2 *of* 3

ACR in vapor lost =	0.00341	lb moles	per inspection
ACR in vapor lost =	0.4188	lb	per inspection
ACR lost during inspections =	20.320	lb / year	

Loss during vessel entry to EST 10

CD in vapor lost =	1.522	lb moles	per vessel entry
CD in vapor lost =	134.780	lb	per vessel entry
CD lost during vessel entries =	1617	lb / year	
Toluene in vapor lost =	0.22875	lb moles	per vessel entry
Toluene in vapor lost =	21.137	lb	per vessel entry
Toluene lost during inspections =	254	lb / year	
ACR in vapor lost =	0.34051	lb moles	per vessel entry
ACR in vapor lost =	41.8789	lb	per vessel entry
ACR lost during inspections =	503	lb / year	

Maximum Emission Rates

Maximum emission rate occurs at the start of tank evaculation using the air mover. Emissions will be at the concentration within the tanks.

Coppus blower capacity	750	cfm
CD emission in first minute	42.119	lb/min
assuming no air leakage in occurs in that first minute.		
Toluene emission in first minute	6.605	lb/min
ACR emission in first minute	13.087	lb/min
Maximum CD Emissions =	42.119	lb/min
Maximum toluene Emissions =	6.605	lb/min
Maximum ACR Emissions =	13.087	lb/min

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 10 Emulsion Tank Manway
TEMPO ID:
Point Source ID No.: 1700-65 *Page* 3 *of* 3

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	2450	30.247	4097.575	1.225
Chloroprene	1666	20.566	2527.117	0.833
Toluene	261	3.225	785.229	0.131
Total HAPs	1927	23.792	3312.346	0.964
Total TAPs	1927	23.792	3312.346	0.964

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 13 Emulsion Storage Tank Manway
TEMPO ID:
Point Source ID No.: 1700-65A

Basis:

EST 13 is located outside of the main Poly building. The manway is not ventilated, so any emissions exit to atmosphere from the manway.
Emissions occur when the tanks are opened for cleaning or maintenance.
EST 13 and 14 are Liquid Dispersion unstripped emulsion storage tanks. These tanks are opened for inspection occasionally, assume once every two months. These tanks require occasional cleaning, assume once every 3 months.
When manways opened for inspection, tanks are already vented down via point source 1700-56. Manway will be open for perhaps 10 minutes while tank wall condition is observed for fouling
Assume 1% of tank vapor content is emitted through convection to atmosphere during inspection, since thre is no motive force to displace vapor from inside the tank
When vessel entry is required to these tanks for cleaning, an air mover is used to evacuate the vapor contents of the tank, replacing it with an air atmosphere. This can take up to 6 hours.
Calculation basis provided by Mr. D. McCrea DuPont
Formerly under EID No. 1700-1 (EQT0134).

Volume EST 13 and 14 =	1545	cub ft
Ambient temperature =	25	deg C
Pressure =	14.696	psia

For worst case scenarios, assuming equilibrium in tank before emptying.
ACR and toluene not present in > 80% time, but counted as if they were.

Loss during inspections of EST 13

Vapor content of EST 13 or 14 =	3.941	lb moles
EST 13 or 14 vapor density =	0.0026	lb moles / cub ft
Inspection of EST 13 & 14 =	8	per year
Loss to atmosphere =	0.039	lb moles
CD in vapor lost =	0.97995	lb moles
CD in vapor lost =	86.7644	lb
CD lost during inspections =	694.115	lb / year
Toluene in vapor lost =	0.00147	lb moles
Toluene in vapor lost =	0.1361	lb
Toluene lost during inspections =	1.089	lb / year

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 13 Emulsion Storage Tank Manway
TEMPO ID:
Point Source ID No.: 1700-65A *Page* 2 *of* 3

ACR in vapor lost =	0.00219	lb moles	per inspection
ACR in vapor lost =	0.2696	lb	per inspection
ACR lost during inspections =	2.157	lb / year	

Loss during vessel entry to EST 13

CD in vapor lost =	0.980	lb moles	per vessel entry
CD in vapor lost =	86.764	lb	per vessel entry
CD lost during vessel entries =	.347.06	lb / year	
Toluene in vapor lost =	0.14726	lb moles	per vessel entry
Toluene in vapor lost =	13.607	lb	per vessel entry
Toluene lost during inspections =	54.43	lb / year	
ACR in vapor lost =	0.21920	lb moles	per vessel entry
ACR in vapor lost =	26.9595	lb	per vessel entry
ACR lost during inspections =	107.84	lb / year	

Maximum Emission Rates

Maximum emission rate occurs at the start of tank evaculation using the air mover. Emissions will be at the concentration within the tanks.

Coppus blower capacity	750	cfm
CD emission in first minute	42.119	lb/min
assuming no air leakage in occurs in that first minute.		
Toluene emission in first minute	6.605	lb/min
ACR emission in first minute	13.087	lb/min
Maximum CD Emissions =	42.119	lb/min
Maximum toluene Emissions =	6.605	lb/min
Maximum ACR Emissions =	13.087	lb/min

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 13 Emulsion Storage Tank Manway
TEMPO ID:
Point Source ID No.: 1700-65A *Page* 3 *of* 3

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	1207	46.411	4097.575	0.603
Chloroprene	1041	40.045	2527.117	0.521
Toluene	56	2.135	785.229	0.028
Total HAPs	1097	42.180	3312.346	0.548
Total TAPs	1097	42.180	3312.346	0.548

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 14 Emulsion Storage Tank Manway
TEMPO ID:
Point Source ID No.: 1700-65B *Page* 1 *of* 3

Basis:

EST 14 is located outside of the main Poly building. The manway is not ventilated, so any emissions exit to atmosphere from the manway.
Emissions occur when the tanks are opened for cleaning or maintenance.
EST 13 and 14 are Liquid Dispersion unstripped emulsion storage tanks. These tanks are opened for inspection occasionally, assume once every two months. These tanks require occasional cleaning, assume once every 3 months.
When manways opened for inspection, tanks are already vented down via point source 1700-56. Manway will be open for perhaps 10 minutes while tank wall condition is observed for fouling
Assume 1% of tank vapor content is emitted through convection to atmosphere during inspection, since thre is no motive force to displace vapor from inside the tank
When vessel entry is required to these tanks for cleaning, an air mover is used to evacuate the vapor contents of the tank, replacing it with an air atmosphere. This can take up to 6 hours.
Calculation basis provided by Mr. D. McCrea DuPont
Formerly under EID No. 1700-1 (EQT0134).

Volume EST 13 and 14 =	1545	cub ft
Ambient temperature =	25	deg C
Pressure =	14.696	psia

For worst case scenarios, assuming equilibrium in tank before emptying.
ACR and toluene not present in > 80% time, but counted as if they were.

Loss during inspections of EST 14

Vapor content of EST 13 or 14 =	3.941	lb moles
EST 13 or 14 vapor density =	0.0026	lb moles / cub ft
Inspection of EST 13 & 14 =	8	per year
Loss to atmosphere =	0.039	lb moles
CD in vapor lost =	0.97995	lb moles
CD in vapor lost =	86.7644	lb
CD lost during inspections =	694.115	lb / year
Toluene in vapor lost =	0.00147	lb moles
Toluene in vapor lost =	0.1361	lb
Toluene lost during inspections =	1.089	lb / year

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 14 Emulsion Storage Tank Manway
TEMPO ID:
Point Source ID No.: 1700-65B

ACR in vapor lost =	0.00219	lb moles	per inspection
ACR in vapor lost =	0.2696	lb	per inspection
ACR lost during inspections =	2.157	lb / year	

Loss during vessel entry to EST 14

CD in vapor lost =	0.980	lb moles	per vessel entry
CD in vapor lost =	86.764	lb	per vessel entry
CD lost during vessel entries =	347.06	lb / year	
Toluene in vapor lost =	0.14726	lb moles	per vessel entry
Toluene in vapor lost =	13.607	lb	per vessel entry
Toluene lost during inspections =	54.43	lb / year	
ACR in vapor lost =	0.21920	lb moles	per vessel entry
ACR in vapor lost =	26.9595	lb	per vessel entry
ACR lost during inspections =	107.84	lb / year	

Maximum Emission Rates

Maximum emission rate occurs at the start of tank evaculation using the air mover. Emissions will be at the concentration within the tanks.

Coppus blower capacity	750	cfm
CD emission in first minute	42.119	lb/min
assuming no air leakage in occurs in that first minute.		
Toluene emission in first minute	6.605	lb/min
ACR emission in first minute	13.087	lb/min
Maximum CD Emissions =	42.119	lb/min
Maximum toluene Emissions =	6.605	lb/min
Maximum ACR Emissions =	13.087	lb/min

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 14 Emulsion Storage Tank Manway
TEMPO ID:
Point Source ID No.: 1700-65B *Page* 3 *of* 3

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	1207	46.411	4097.575	0.603
Chloroprene	1041	40.045	2527.117	0.521
Toluene	56	2.135	785.229	0.028
Total HAPs	1097	42.180	3312.346	0.548
Total TAPs	1097	42.180	3312.346	0.548

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Building Wall Fans
TEMPO ID: EQT0185
Point Source ID No.: 1700-66 *Page* 1 *of* 4

Basis:

Based on 10 hr TWA area data developed between 1999 and 2001, the average concentration of CD in the building air is 0.56 ppmv.
Monitoring data for toluene between February 2001 and September 2002 indicate an average concentration of 0.176 ppm.
ACR has a vapor pressure similar to that of toluene. Conservatively assume the same concentration in the air.
ACR is present in only 4 out of the 20 Neoprene types manufactured in Poly.
Similarly toluene is present in only 6 types Neoprene out of 20

Fans vent fugitive emissions from equipment components located in the building.
Calculation basis provided by Mr. P. Offut, DuPont

Rated Capacity of Fans =	476365	cfm
Amount of Time Discharging =	8760	hours/yr
Average CD in Air Exhausted =	0.56	ppm CD by volume
Maximum CD in Air Exhausted =	0.67	ppm CD by volume
Avg. Toluene in Air Exhausted =	0.176	ppm toluene by volume
Max. Toluene in Air Exhausted =	3.1464	ppm toluene by volume
Avg. ACR in Air Exhausted =	0.176	ppm ACR by volume
Max. ACR in Air Exhausted =	3.1464	ppm ACR by volume
Molecular Weight of CD =	88.54	lb/lb-mole
Molecular Weight of Toluene =	92.4	lb/lb-mole
Molecular Weight of ACR =	122.99	lb/lb-mole
Temperature =	25	°C
Pressure =	14.696	psia

Average Emission Rates

Chloroprene

Using given information,

Average CD Emissions =	0.2668	cfm CD

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Building Wall Fans
TEMPO ID: EQT0185
Point Source ID No.: 1700-66 *Page* 2 *of* 4

Using the Ideal Gas Law,

Average CD Emissions =	0.000680	moles/minute
Average CD Emissions =	0.060241	lbs/minute
Average CD Emissions =	3.614	lbs/hour
Average CD Emissions =	31663	lbs/yr
Average CD Emissions =	15.83	tons/yr

Toluene

Using given information,

Average Toluene Emissions =	0.0838	cfm toluene

Using the Ideal Gas Law,

Average Toluene Emissions =	0.000214	moles/minute
Average Toluene Emissions =	0.019758	lbs/minute
Average Toluene Emissions =	1.185	lbs/hour
Average Toluene Emissions =	10385	lbs/yr
Average Toluene Emissions =	5.19	tons/yr

ACR

Using given information,

Average ACR Emissions =	0.0838	cfm ACR

Using the Ideal Gas Law,

Average ACR Emissions =	0.000214	moles/minute
Average ACR Emissions =	0.026299	lbs/minute
Average ACR Emissions =	1.578	lbs/hour
Average ACR Emissions =	13823	lbs/yr
Average ACR Emissions =	6.91	tons/yr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Building Wall Fans
TEMPO ID: EQT0185
Point Source ID No.: 1700-66 *Page* 3 *of* 4

Maximum Emission Rates

Chloroprene

Using given information,

Maximum CD Emissions = 0.3201 cfm CD

Using the Ideal Gas Law,

Maximum CD Emissions = 0.000816 moles CD/minute
Maximum CD Emissions = 0.072289 lbs CD/minute
Maximum CD Emissions = 4.337 lbs CD/hour

Toluene

Using given information,

Maximum Toluene Emissions = 1.4988 cfm toluene

Using the Ideal Gas Law,

Maximum Toluene Emissions = 0.003823 moles/minute
Maximum Toluene Emissions = 0.353225 lbs/minute
Maximum Toluene Emissions = 21.193 lbs/hour

ACR

Using given information,

Maximum ACR Emissions = 1.4988 cfm ACR

Using the Ideal Gas Law,

Maximum ACR Emissions = 0.003823 moles/minute
Maximum ACR Emissions = 0.470163 lbs/minute
Maximum ACR Emissions = 28.210 lbs/hour

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Poly Building Wall Fans
TEMPO ID: EQT0185
Point Source ID No.: 1700-66 *Page* 4 *of* 4

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	55871	6.378	53.741	27.935
Chloroprene	31663	3.614	4.337	15.831
Toluene	10385	1.185	21.193	5.192
Total HAPs	42048	4.800	25.531	21.024
Total TAPs	42048	4.800	25.531	21.024

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Finishing Stabilizer Makeup Bag Filter
TEMPO ID: EQT0193
Point Source ID No.: 1700-74 *Page* 1 *of* 1

Basis:

Keltrol Used =	2521	lb/yr
TETD Used =	150219	lb/yr
Lomar PW =	10212	lb/yr
Total Addition Time =	88	hours

Keltrol, TETD, and Lomar are added manually from bags to finishing stabilizer makeup tanks into an aqueous suspension.
Estimated that 0.25% of the material transferred becomes airborne. This is based on experience with the bag filter, which is almost clean when inspected annually.
Estimated that 50% of the airborne dust is captured by exhaust system. Remainder is captured in building.
Emissions are controlled by a bag filter with 99% control efficiency.
Calculation basis provided by Mr. D.McCrea, DuPont

PM/PM-10 Emissions

Fraction Airborne =	0.25	%
Capture Efficiency =	50	%
Control Efficiency =	99	%

PM/PM-10 Emissions = Process rate, lb/yr x Fraction Airborne x Capture Effiency x (1 - Control Efficiency) / 214 hr/yr

= 162952 lb/yr x 0.25% x 50% x (1 - 0.99) / 88 hr/yr
= 0.0231 lb/hr
= 0.00 tpy

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
PM/PM-10	2.04	0.023	0.023	0.001

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Emergency Stabilizer Drumming
TEMPO ID: EQT0198
Point Source ID No.: 1700-79 *Page* 1 *of* 2

Basis:

Emergency stabilizer is produced 4 times per year.
Emergency stabilizer is drummed out from the stablizer makeup tank.
Emissions are not controlled.
Assume that vapor displaced is saturated with VOC.
Emergency stabilizer is composed of toluene, water and dissolved inhibitors.
Calculation basis provided by Mr. P. Offut, DuPont

Drumming Rate =	5	gal/min
Drumming Rate =	0.6685	cfm
Stabilizer Drummed =	20400	lb
Density of Emergency Stabilizer =	7.64	lb/gal
Volume of Drum =	55	gal
Temperature =	25	C
Vapor Pressure of Toluene =	28.40	mm Hg
Molecular Weight of Toluene =	92.4	lb/lb-mole

Emission Rates

Drumming Time =	534.03	min

Using the Ideal Gas Law,

Total Vapor =	0.002550	moles/ft3
Toluene Vapor =	0.000095	moles/ft3
Toluene Vapor =	0.008807	lbs toluene/ft3 total vapor
Toluene Vapor =	0.005887	lbs toluene/min
Toluene Vapor =	0.353250	lb/hr
Toluene Vapor =	3.14	lb/yr
Toluene Vapor =	0.002	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Emergency Stabilizer Drumming
TEMPO ID: EQT0198
Point Source ID No.: 1700-79 *Page* 2 *of* 2

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	3.1	0.353	0.353	0.002
Toluene	3.1	0.353	0.353	0.002
Total HAPs	3.1	0.353	0.353	0.002
Total TAPs	3.1	0.353	0.353	0.002

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: ACR Storage Common Vent Header
TEMPO ID: RLP0017
Point Source ID No.: 1700-80

Basis:

Emissions are the total from the Refined ACR Storage Tank (1700-80.1/EQT0199) and Chlorinated ACR Storage Tank (1700-80.2/EQT0200).

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	198	0.023	-	0.099
1,2-Dichlorobenze	0.11	0.00001	-	0.00005
Total HAPs	0.11	0.00001	-	0.00005
Total TAPs	0.11	0.00001	-	0.00005

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Refined ACR Storage Tank
TEMPO ID: EQT0199
Point Source ID No.: 1700-80.1 *Page* 1 *of* 4

Basis:

Refined ACR from the ACR Refining Column is pumped into the Refined ACR storage tank. The Refined ACR Storage Tank has an external -18 C brine cooled heat exchanger. The circulating flow from the tank goes to the SMU are to feed the MST and returns to the tank via the cooler.
The ACR storage tank is 45,000 gal in size, but the capacity is limited to 172,600 lb by Neovent considerations.
The tank is nitrogen blanketed.
Refined ACR is withdrawn from the ACR supply loop in Poly batchwise at the MST.
The Refined and Chlorinated ACR Storage tanks share a common ven header, but the ACR-solvent blend tank has a separate vent to avoid possible solvent contamination of the Refined ACR Storage Tank.
All inlet streams of ACR tanks enter through droplegs.
The vent stack for the ACR Storage Tank is to be 2" in diameter and approximately 50 ft above grade.

ACR Produced =	2959863	lb/yr
Max Fill Tank =	667	lb/hr
Tank Volume =	45000	gal
Max. Liquid Level in Refined ACR Tank =	17370	gal
Tank Temperature =	-10.00	C
=	263.15	K
Tank Pressure =	6	psig
=	20.7	psia
=	1070.20	mm Hg
s.g. of ACR at Specified Temp =	1.2	

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Refined ACR Storage Tank
TEMPO ID: EQT0199
Point Source ID No.: 1700-80.1 *Page* 2 *of* 4

Emission Rates

Use the working loss equation from Section 7.1.3.1.2 of AP-42, 5th Edition.

L_W, Working Loss, lb/yr = 0.001 * M_V * P_{VA} * (Q / 42) * K_N * K_P

M_V = vapor molecular weight, lb/lb-mol
= 123.02 lb/lb-mole
P_{VA} = vapor pressure at daily average liquid surface temperature, psia
= 0.1250 psia
Q = throughput, gal/yr
= 295785 gal/yr
Max Level = 173818 lb
N = number of turnovers
= 295785 gal/yr / 17370 gal
= 17.03
K_N = turnover factor
= 1 for N <= 36
= (180+N) / 6N for N>36
= 1
K_P = working loss product factor
= 1 for all liquids except crude oil

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Refined ACR Storage Tank
TEMPO ID: EQT0199
Point Source ID No.: 1700-80.1 *Page* 3 *of* 4

Component	Wt % in liquid	Mol Wt	Wt%/MW	Mole Fraction in Liquid	Vapor Pressure (mm Hg)	Partial Pressure (mm Hg)
ACR	0.935	122.99	0.760	0.9397	6.66	6.2553
ACR-1	0.046	122.99	0.037	0.0462	4.27	0.1976
ACR-2	0.002	122.99	0.002	0.0020	2.84	0.0057
ACR-3	0.002	122.99	0.002	0.0020	1.89	0.0038
T-1,4 DCB	0	125	0	0.0000	0.01	0
TCB-1	0	159.5	0	0.0000	0.30	0
TCB-2	0	159.5	0.000	0.0000	0.05	0.0000
Meso	0	196	0.000	0.0000	0.03	0.0000
C4Cl4	0.01	196	0.005	0.0063	0.03	0.0002
C4Cl5	0	230.5	0	0.0000	0.03	0
C4Cl6	0	265	0	0.0000	0.03	0
1,2-DCB	0.005	166.00	0.003	0.0037	1.11	0.0041
NMP	0	85.1	0	0.0000	0.00	0
	1.000		0.809	1		6.4667

Component	Partial Pressure (psia)	Mole Fraction in Vapor	Mol Weight of Vapor lb/lb-mol	Avg. Hourly Emissions lb/hr	Max. Hourly Emissions lb/hr	Annual Emissions lb/yr
ACR	0.12096	0.005845	118.97	0.012	0.026	104.793
ACR-1	0.00382	0.000185	3.76	0.0004	0.001	3.310
ACR-2	0.00011	0.000005	0.11	0.0000	0.000	0.096
ACR-3	0.00007	0.000004	0.07	0.0000	0.000	0.064
T-1,4 DCB	0	0	0	0	0	0
TCB-1	0	0	0	0	0	0
TCB-2	0	0	0	0.000000	0.00000	0
Meso	0	0	0	0.0000000	0.000000	0
C4Cl4	3.782E-06	1.82757E-07	0.005928087	3.74E-07	1.3E-06	0.003
C4Cl5	0	0	0	0	0	0
C4Cl6	0	0	0	0	0	0
1,2-DCB	0.00008	0.000004	0.11	0.000008	0.00002	0.069
NMP	0	0	0	0	0	0
	0.1250	0.0060	123.02	0.012	0.027	108.335

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Refined ACR Storage Tank
TEMPO ID: EQT0199
Point Source ID No.: 1700-80.1 *Page* 4 *of* 4

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	108	0.012	-	0.054
1,2-Dichlorobenze	0.07	0.000008	-	0.00003
Total HAPs	0.07	0.000008	-	0.00003
Total TAPs	0.07	0.000008	-	0.00003

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Chlorinated ACR Storage Tank
TEMPO ID: EQT0200
Point Source ID No.: 1700-80.2

Basis:

Chlorinated ACR from the Transfer Tank in Monomer is pumped through the 1.5" transfer header to the Chlorinated ACR storage tank in Polly Area.The Chlorinated ACR Storage tank is jacketed with -18 deg C C brine and is nitrogen blanketed. There will be flow in and out of the tank simultaneously. The Chlorinated ACR Storage Tank is the former # 2 Crude CD Storage Tank. Tank is limited to 76.5% inventory by Neovent requirements.
The operating mode of this tank will be to run the level at a constant 50%, by matching the ACR production rate with the ACR refining rate.
Therefore working losses from this tank will be minimal.
However ACR Refining is designed to run at 50% uptime and ACR Synthesis at 80% uptime
Therefore for 30% of time chlorinated ACR will run into the tank increasing the level, since ACR Refining is down.
Therefore ACR venting will occur during this period
Assume the tank is refilled for turnarounds twice per year.

ACR Produced =	2921460	lb/yr
Max ACR produced =	13000	lb/day
Chlorinated ACR per Refined ACR Produced =	1.591	lb/lb
Max Chlorinated ACR Produced =	862	lb/hr
Chlorinated ACR Tank Volume =	17600	gal
Max. Liquid Level in Chlorinated ACR Tank =	128040	lb
Tank Temperature =	0.00	C
=	273.15	K
Tank Pressure =	6	psig
=	20.7	psia
=	1070.20	mm Hg
s.g. of Chlorinated ACR at 0 C =	1.22	

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Chlorinated ACR Storage Tank
TEMPO ID: EQT0200
Point Source ID No.: 1700-80.2 *Page* 2 *of* 4

Emission Rates

Use the working loss equation from Section 7.1.3.1.2 of AP-42, 5th Edition.

L_W, Working Loss, lb/yr = 0.001 * M_V * P_{VA} * (Q / 42) * K_N * K_P

M_V = vapor molecular weight, lb/lb-mol
= 123.04 lb/lb-mole
P_{VA} = vapor pressure at daily average liquid surface temperature, psia
= 0.1870 psia
Q = throughput, bbl/yr
Since tank is operated as a constant level tank for 70% of the time, the throughput is calculated for the remaining time plus 2 turnarounds
= [2921460 lb ACR/yr x 1.591 lb CACR/lb ACR x 0.3 / (1.22 x 8.34 lb/gal) + 17600 gal x 0.765 x 2] / 42 gal/bbl
= 3904 bbl/yr
N = number of turnovers
= 3904 bbl/yr / (17600 gal x 0.765 / 42 bbl/gal)
= 12.18
K_N = turnover factor
= 1 for N <= 36
= (180+N) / 6N for N>36
= 1
K_P = working loss product factor
= 1 for all liquids except crude oil

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Chlorinated ACR Storage Tank
TEMPO ID: EQT0200
Point Source ID No.: 1700-80.2 *Page* 3 *of* 4

Component	Wt % in liquid	Mol Wt	Wt%/MW	Mole Fraction in Liquid	Vapor Pressure (mm Hg)	Partial Pressure (mm Hg)
ACR	0.720	122.99	0.585	0.7399	11.86	8.7716
ACR-1	0.039	122.99	0.032	0.0399	7.96	0.3174
ACR-2	0.038	122.99	0.031	0.0388	5.37	0.2085
ACR-3	0.099	122.99	0.080	0.1013	3.58	0.3629
T-1,4 DCB	0	125	0	0.0000	0.01	0
TCB-1	0	159.5	0	0.0000	0.64	0
TCB-2	0.082	159.5	0.051	0.0647	0.12	0.0076
Meso	0.018	196	0.009	0.0116	0.07	0.0008
C4Cl4	0	196	0	0.0000	0.07	0
C4Cl5	0	230.5	0	0.0000	0.07	0
C4Cl6	0	265	0	0.0000	0.07	0
1,2-DCB	0.005	166.00	0.003	0.0038	1.11	0.0042
NMP	0	85.1	0	0.0000	0.00	0
	1.000		0.791	1		9.6730

Component	Partial Pressure (psia)	Mole Fraction in Vapor	Mol Weight of Vapor lb/lb-mol	Avg. Hourly Emissions lb/hr	Max. Hourly Emissions lb/hr	Annual Emissions lb/yr
ACR	0.16961	0.008196	111.53	0.009	0.045	81.479
ACR-1	0.00614	0.000297	4.04	0.0003	0.002	2.949
ACR-2	0.00403	0.000195	2.65	0.0002	0.001	1.937
ACR-3	0.00702	0.000339	4.61	0.0004	0.002	3.371
T-1,4 DCB	0	0	0	0	0	0
TCB-1	0	0	0	0	0	0
TCB-2	0.00015	0.000007	0.13	0.000008	0.00005	0.070
Meso	0.00002	0.000001	0.02	0.0000008	0.000006	0.007
C4Cl4	0	0	0	0	0	0
C4Cl5	0	0	0	0	0	0
C4Cl6	0	0	0	0	0	0
1,2-DCB	0.00008	0.000004	0.07	0.000004	0.00003	0.039
NMP	0	0	0	0	0	0
	0.1870	0.0090	123.04	0.010	0.049	89.852

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Chlorinated ACR Storage Tank
TEMPO ID: EQT0200
Point Source ID No.: 1700-80.2

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	90	0.010	-	0.045
1,2-Dichlorobenze	0.04	0.000004	-	0.00002
Total HAPs	0.04	0.000004	-	0.00002
Total TAPs	0.04	0.000004	-	0.00002

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: ACR Refining Vent
TEMPO ID: RLP0018
Point Source ID No.: 1700-81 *Page* 1 *of* 1

Basis:

Emissions calculated using an ASPEN simulation.

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	4400	1.00	10.00	2.20
1,2-Dichlorobenze	<20	<0.001	<0.001	<0.01
HCl	1400	0.30	4.50	0.70
Total HAPs	1420	0.30	4.50	0.70
Total TAPs	1420	0.30	4.50	0.70

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: ACR/Solvent Blend Tank
TEMPO ID: EQT0201
Point Source ID No.: 1700-82 *Page* 1 *of* 4

Basis:

ACR is sold to customers in drum quantities. To prevent polymerization of the ACR, the ACR is diluted with a solvent and extra polymerization inhibitors are added. The material to be drummed is made up in an ACR-solvent blend tank. Refined ACR from the
ACR is added to the blend tank at -5 deg C. Solvent in Blend Tank will be at -10 deg C prior to ACR addition. Mixture temperature and composition when 50% of the ACR has been added represents average conditions during vapor displacement and was used to
Initial solvent added at ambient warehouse temperature (65F). External cooler will cool solvent down as it is added. Assume at mean temperarture of -1 deg C.
Assume max rates are 120% of average rates.

	Units	ACR Perclene	ACR DCM	ACR Xylene
Annual Drums Made-up	Drums/yr	2,000	200	500
Drums per Blend Tank Fill	Drums	18	18	18
Refined ACR in ACR / Perclene Drum	lbs Ref. ACR	250	300	200
Amount Solvent per Drum	lbs Solvent	250	200	200
Solvent Containers per Batch	Containers	1	6	9
Solvent Container Mass	lbs	4,700	603	400
Solvent Unloading Time	minutes	17.12	15.87	24.57
Spec. Gravity of Solvent at -1 C	g/cc	1.65	1.37	0.88
Annual Blend Tank Fills	Blends/yr	111	11	27
Volume of Blend Tank	gallons	960		
Solvent Fill Rate	gpm	20		
Annual ACR Used in Drum Shipments	ppy	660,000		
Tank Pressure at Venting	psig	2.5		
	mm Hg	889		
Avg Tank Temp During Solvent Addition	C	-1		
	K	272		
Adj. Gas Specific Vol. for Solvent Addition	ft^3/lb mol	306		

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: ACR/Solvent Blend Tank
TEMPO ID: EQT0201
Point Source ID No.: 1700-82 *Page* 2 *of* 4

Emission Rates

Estimation of Losses Due To Solvent Addition to Blend Tank

Component	Mol Wt lb/lb-mol	Vapor Pressure mm Hg	Solvent Mole Fraction in Vapor	Displaced Volume in Blend Tank ft^3	Displaced Total Moles from Tank lb-mol	Displaced Moles of Solvent from Tank lb-mol
Perclene	165.83	4.02	0.005	45.534	0.149	0.0007
Dichloromethane	84.93	137.18	0.154	42.409	0.139	0.0214
Xylene	106.17	1.58	0.002	65.424	0.214	0.0004

Component	Working Loss lb	Avg. Hourly Emissions lb/hr	Max. Hourly Emissions lb/hr	Annual Emissions lb/yr
Perclene	0.112	0.391	0.470	12.393
Dichloromethane	1.817	6.871	8.246	19.992
Xylene	0.040	0.099	0.118	1.090

Estimation of Losses Due To ACR Addition to Perclene in the Blend Tank

Assume conditions at the 50% ACR addition point, i.e., -10 C.

Average Hourly ACR Fill Rate =	667 pph
Tank Temperature during ACR Addition =	-10 C
Tank Temperature during ACR Addition =	263 K
Adjusted Gas Specific Volume for ACR Addition =	296 ft^3/lb-mol
Density of ACR at Specific Temperature =	1.20 g/cc
Mass of ACR Added =	4700 lbs
Volume Displaced by ACR =	62.74 ft^3
Moles Displaced by ACR =	0.2123 lb-mol
ACR Fill Time =	7.05 hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: ACR/Solvent Blend Tank
TEMPO ID: EQT0201
Point Source ID No.: 1700-82 *Page* 3 *of* 4

Component	Wt % in Liquid	Mol Wt lb/lb-mol	Mole Fraction in Liquid	Vapor Pressure mm Hg	Partial Pressure mm Hg	Mole Fraction in Vapor
ACR	0.3167	122.99	0.257	6.657	1.711	0.0019
ACR-1	0.0167	122.99	0.014	4.274	0.058	0.0001
Perclene	0.6667	165.83	0.729	3.875	2.827	0.0032

Component	Displaced Moles from Tank lb-mol	Working Loss lb	Avg. Hourly Emissions lb/hr	Max. Hourly Emissions lb/hr	Annual Emissions lb/yr
ACR	0.00041	0.050	0.007	0.009	5.574
ACR-1	0.00001	0.002	0.0002	0.000	0.188
Perclene	0.00067	0.112	0.016	0.019	12.419

Estimation of Losses Due To ACR Addition to Dichloromethane in the Blend Tank

Mass of ACR Added = 5427 lbs
Volume Displaced by ACR = 72.45 ft^3
Moles Displaced by ACR = 0.2451 lb-mol
ACR Fill Time = 8.14 hr

Component	Wt % in Liquid	Mol Wt lb/lb-mol	Mole Fraction in Liquid	Vapor Pressure mm Hg	Partial Pressure mm Hg	Mole Fraction in Vapor
ACR	0.4071	122.99	0.495	6.657	3.292	0.0037
ACR-1	0.0214	122.99	0.026	4.274	0.111	0.0001
Dichloromethane	0.5714	84.93	0.479	132.230	63.387	0.0713

Component	Displaced Moles from Tank lb-mol	Working Loss lb	Avg. Hourly Emissions lb/hr	Max. Hourly Emissions lb/hr	Annual Emissions lb/yr
ACR	0.00091	0.112	0.014	0.016	1.228
ACR-1	0.00003	0.004	0.0005	0.001	0.041
Dichloromethane	0.01747	1.484	0.182	0.219	16.321

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: ACR/Solvent Blend Tank
TEMPO ID: EQT0201
Point Source ID No.: 1700-82 *Page* 4 *of* 4

Estimation of Losses Due To ACR Addition to Xylene in the Blend Tank

Mass of ACR Added = 3600 lbs
Volume Displaced by ACR = 48.06 ft^3
Moles Displaced by ACR = 0.1626 lb-mol
ACR Fill Time = 5.40 hr

Component	Wt % in Liquid	Mol Wt lb/lb-mol	Mole Fraction in Liquid	Vapor Pressure mm Hg	Partial Pressure mm Hg	Mole Fraction in Vapor
ACR	0.3167	122.99	0.348	6.657	2.319	0.0026
ACR-1	0.0167	122.99	0.018	4.274	0.078	0.0001
Xylene	0.6667	106.17	0.633	1.523	0.964	0.0011

Component	Displaced Moles from Tank lb-mol	Working Loss lb	Avg. Hourly Emissions lb/hr	Max. Hourly Emissions lb/hr	Annual Emissions lb/yr
ACR	0.00042	0.052	0.010	0.012	1.408
ACR-1	0.00001	0.002	0.0003	0.000	0.048
Xylene	0.00018	0.019	0.003	0.004	0.505

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	10	0.134	0.142	0.005
Dichloromethane	36	7.054	9.895	0.018
Tetrachlorethylen	25	0.407	0.563	0.012
Xylene	2	0.102	0.142	0.001
Total HAPs	63	7.563	9.895	0.031
Total TAPs	63	7.563	9.895	0.031

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: ACR Drumming Vent
TEMPO ID: RLP0019
Point Source ID No.: 1700-83 *Page* 1 *of* 4

Basis:

ACR- solvent mixtures from the ACR blend tank are added to 55-gallon drums to supply material to customers. Vapors are not recovered from the drumming operation. There is an area ventilation fan in the open drumming shed to minimize operator exposure to vapors during the filling operation. Maximum hourly emissions assume that only 4 pallets (16 drums) of material can be loaded out in one hour, based upon past experience. The max. for ACR/MeCl is 13 drums as this is the largest order experienced. Average hourly emissions was calculated by prorating the hourly emission by type by the annual order quantity by type.

	Units	ACR Perclene	ACR DCM	ACR Xylene
Vap Press of Solvent @ -5 C	mm Hg	3.1	111.9	1.0
Spec. Grav. Of Solvent @ -5 C		1.66	1.37	0.89
Spec. Gravity of ACR @ -5 C		1.19	1.19	1.19
Wt % ACR in Drum	wt %	50%	60%	50%
s.g of ACR Solvent Blend		1.39	1.26	1.02
Annual No. of Drums Made up	#	2000	200	500
Max No. of Drums Filled	#/hr	16	13	16
Avg No. of Drums Filled	#/hr	12	12	12
ACR Solvent Mixture per Drum	lbs	500	500	400
Drum Temperature	C	-5		
Drum Temperature	K	268		
Drum Pressure	mm Hg	760		
Gas Specific Volume	ft^3/lb-mol	352		

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: ACR Drumming Vent
TEMPO ID: RLP0019
Point Source ID No.: 1700-83

Emission Rates

ACR/Perclene Drum Filling

Component	Wt % in Liquid	Mol Wt lb/lb-mol	Wt%/MW	Mole Fraction in Liquid	Vapor Pressure mm Hg	Partial Pressure mm Hg
ACR	0.4750	122.99	0.386	0.546	8.932	4.8789
ACR-1	0.0180	122.99	0.015	0.021	5.867	0.1215
Others	0.0070	150	0.005	0.007	3.930	0.0259
Perclene	0.5000	165.83	0.302	0.426	3.082	1.3144
	1		0.707	1		

Component	Mole Fraction in Vapor	Working Loss lb/drum	Avg. Hourly Emissions lb/hr	Max. Hourly Emissions lb/hr	Annual Emissions lb/yr
ACR	0.0064	0.013	0.155	0.207	25.850
ACR-1	0.0002	0.0003	0.004	0.005	0.644
Others	0.00003	0.00008	0.001	0.001	0.168
Perclene	0.0017	0.005	0.056	0.075	9.390

ACR/Dichloromethane Drum Filling

Component	Wt % in Liquid	Mol Wt lb/lb-mol	Wt%/MW	Mole Fraction in Liquid	Vapor Pressure mm Hg	Partial Pressure mm Hg
ACR	0.5700	122.99	0.463	0.484	8.932	4.3227
ACR-1	0.0216	122.99	0.018	0.018	5.867	0.1076
Others	0.0084	150	0.006	0.006	3.930	0.0230
Dichloromethane	0.4000	84.93	0.471	0.492	111.883	55.0273
	1		0.958	1		

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: ACR Drumming Vent
TEMPO ID: RLP0019
Point Source ID No.: 1700-83 *Page* 3 *of* 4

Component	Mole Fraction in Vapor	Working Loss lb/drum	Avg. Hourly Emissions lb/hr	Max. Hourly Emissions lb/hr	Annual Emissions lb/yr
ACR	0.0057	0.013	0.151	0.164	2.525
ACR-1	0.0001	0.0003	0.004	0.004	0.063
Others	0.00003	0.00008	0.001	0.001	0.016
Dichloromethane	0.0724	0.111	1.332	1.443	22.194

ACR/Xylene Drum Filling

Component	Wt % in Liquid	Mol Wt lb/lb-mol	Wt%/MW	Mole Fraction in Liquid	Vapor Pressure mm Hg	Partial Pressure mm Hg
ACR	0.4750	122.99	0.386	0.441	8.932	3.9356
ACR-1	0.0180	122.99	0.015	0.017	5.867	0.0980
Others	0.0070	150	0.005	0.005	3.930	0.0209
Xylene	0.5000	106.17	0.471	0.537	1.032	0.5544
	1		0.876	1		

Component	Mole Fraction in Vapor	Working Loss lb/drum	Avg. Hourly Emissions lb/hr	Max. Hourly Emissions lb/hr	Annual Emissions lb/yr
ACR	0.0052	0.011	0.136	0.181	5.671
ACR-1	0.0001	0.0003	0.003	0.005	0.141
Others	0.00003	0.00007	0.001	0.001	0.037
Xylene	0.00073	0.001	0.017	0.022	0.690

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: ACR Drumming Vent
TEMPO ID: RLP0019
Point Source ID No.: 1700-83

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	45	0.201	0.346	0.023
Dichloromethane	22	0.099	1.443	0.011
Tetrachloroethylen	9	0.042	0.075	0.005
Xylene	1	0.003	0.022	0.0003
Total HAPs	32	0.143	1.443	0.016
Total TAPs	32	0.143	1.443	0.016

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Advanced Fibres System (AFS) Emulsion Shipping Emulsion Blend Tank
TEMPO ID: EQT0212
Point Source ID No.: 1700-84A

Basis:

AFS will purchase up to 32 totes of WRT, GRT, GW emulsion monthly
Use 48 totes for calculation
Vented annual volume of ACS tank is that of 48 totes per month
Toluene is emitted from GRT and GW emulsions.
90% of emulsion shipped will contain toluene

AFS Tank Volume =	5772	gal
=	771.72	ft3
Tank filling at ambient temperature =	35	C
Vapor pressure CD at 35 °C is	334.3	mm Hg
Vapor pressure toluene at 35 °C is	52	mm Hg
MW of CD =	88.54	lb/lb-mol
MW of Toluene =	92.14	lb/lb-mol
CD component of emulsion =	0.099	wt % max
Toluene component of emulsion =	0.0165	wt % max
Solids component of emulsion =	45	wt %
Tote Contains =	2200	lb emulsion
Emulsion Density =	67.28	lb/ft3
No. of Totes =	48	per month
Specific Volume =	359.7	ft3/mol
Operating Time =	8760	hr

Emission Rates

Convert CD concentration to exclude the solids component

CD component of emulsion = 0.099 / (1 - 0.45)
= 0.180 %

Mole Fraction CD = 0.18 / 88.54 / [0.18 / 88.54 + (100 - 0.18) / 18]
= 0.00037

Partial Pressure CD in Tank = 334.3 x 0.00037
0.123 mm Hg

Mole Fraction CD in Vapor = 0.123 mm Hg / 760
= 0.000161

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Advanced Fibres System (AFS) Emulsion Shipping Emulsion Blend Tank
TEMPO ID: EQT0212
Point Source ID No.: 1700-84A

Vapor Vented per Tote = 2200 lb/tote / 67.284 lb/cu ft
= 32.70 ft3/tote

CD Emitted = 48 totes/month x 12 months/yr x 32.7 cu ft/tote x 0.000161
= 3.04 ft3

CD Emitted = 3.04 cu ft x 88.54 lb/lb-mole / [359.7 cu ft/mole x (273 / (273 + 35))]
= 0.84 lb
= 0.0004 tpy
= 0.0001 lb/hr

Convert toluene concentration to exclude the solids component

Toluene component of emulsion = 0.0165 / (1 - 0.45)
= 0.030 %

Mole Fraction Toluene = 0.03 / 92.14 / [0.03 / 92.14 + (100 - 0.03) / 18]
= 0.00006

Partial Pressure Toluene in Tank = 52 x 0.00006
0.003 mm Hg

Mole Fraction Toluene in Vapor = 0.003 mm Hg / 760
= 0.000004

Toluene Emitted = 48 totes/month x 12 months/yr x 32.7 cu ft/tote x 0.000004 x 0.9
= 0.07 ft3

Toluene Emitted = 0.07 cu ft x 92.14 lb/lb-mole / [359.7 cu ft/mole x (273 / (273 + 35))]
= 0.02 lb
= 0.00001 tpy
= 0.000002 lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Advanced Fibres System (AFS) Emulsion Shipping Emulsion Blend Tank
TEMPO ID: EQT0212
Point Source ID No.: 1700-84A *Page* 3 *of* 3

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	0.86	0.0001	0.0001	0.0004
Chloroprene	0.84	0.0001	0.0001	0.0004
Toluene	0.02	0.000002	0.000002	0.00001
Total HAPs	0.86	0.0001	0.0001	0.0004
Total TAPs	0.86	0.0001	0.0001	0.0004

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Advanced Fibres System (AFS) Emulsion Shipping Totes
TEMPO ID: EQT0213
Point Source ID No.: 1700-84B

Basis:

AFS will purchase up to 32 totes of WRT, GRT, GW emulsion monthly
Use 48 totes for calculation
Vented annual volume of ACS tank is that of 48 totes per month
Toluene is emitted from GRT and GW emulsions.
90% of emulsion shipped will contain toluene

Tote filling at ambient temperature =	35	C
Vapor pressure CD at 35 °C is	334.3	mm Hg
Vapor pressure toluene at 35 °C is	52	mm Hg
MW of CD =	88.54	lb/lb-mol
MW of Toluene =	92.14	lb/lb-mol
CD component of emulsion =	0.099	wt % max
Toluene component of emulsion =	0.0165	wt % max
Solids component of emulsion =	45	wt %
Tote Contains =	2200	lb emulsion
Emulsion Density =	67.28	lb/ft3
No. of Totes =	48	per month
Specific Volume =	359.7	ft3/mol
Operating Time =	8760	hr

Emission Rates

Convert CD concentration to exclude the solids component

CD component of emulsion = 0.099 / (1 - 0.45)
= 0.180 %

Mole Fraction CD = 0.18 / 88.54 / [0.18 / 88.54 + (100 - 0.18) / 18]
= 0.00037

Partial Pressure CD in Totes = 334.3 x 0.00037
0.123 mm Hg

Mole Fraction CD in Vapor = 0.123 mm Hg / 760
= 0.000161

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Advanced Fibres System (AFS) Emulsion Shipping Totes
TEMPO ID: EQT0213
Point Source ID No.: 1700-84B

Vapor Vented per Tote = 2200 lb/tote / 67.284 lb/cu ft
= 32.70 ft3/tote

CD Emitted = 48 totes/month x 12 months/yr x 32.7 cu ft/tote x 0.000161
= 3.04 ft3

CD Emitted = 3.04 cu ft x 88.54 lb/lb-mole / [359.7 cu ft/mole x (273 / (273 + 35))]
= 0.84 lb
= 0.0004 tpy
= 0.0001 lb/hr

Convert toluene concentration to exclude the solids component

Toluene component of emulsion = 0.0165 / (1 - 0.45)
= 0.030 %

Mole Fraction Toluene = 0.03 / 92.14 / [0.03 / 92.14 + (100 - 0.03) / 18]
= 0.00006

Partial Pressure Toluene in Totes = 52 x 0.00006
0.003 mm Hg

Mole Fraction Toluene in Vapor = 0.003 mm Hg / 760
= 0.000004

Toluene Emitted = 48 totes/month x 12 months/yr x 32.7 cu ft/tote x 0.000004 x 0.9
= 0.07 ft3

Toluene Emitted = 0.07 cu ft x 92.14 lb/lb-mole / [359.7 cu ft/mole x (273 / (273 + 35))]
= 0.02 lb
= 0.00001 tpy
= 0.000002 lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Advanced Fibres System (AFS) Emulsion Shipping Totes
TEMPO ID: EQT0213
Point Source ID No.: 1700-84B

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	0.86	0.0001	0.0001	0.0004
Chloroprene	0.84	0.0001	0.0001	0.0004
Toluene	0.02	0.000002	0.000002	0.00001
Total HAPs	0.86	0.0001	0.0001	0.0004
Total TAPs	0.86	0.0001	0.0001	0.0004

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Liquid Dispersion Loading (Truck, Tote, Railcar)
TEMPO ID: EQT0214
Point Source ID No.: 1700-85 *Page* 1 *of* 4

Basis:

65% of LD shipments will be by bulk carrier.
LD loaded from Emulsion Storage Tanks # 11, 12, 15,16 into vendor tank trucks

Total LD Shipped =	15	MMlb/yr dry wt
Total LD-750 Shipped =	3.7	MMlb/yr dry wt
Solids component =	50	wt %
Total LD Shipments Bulk =	65	% of total
Loading Temperature =	35	C
Vapor pressure CD at 35 °C =	334.3	mm Hg
Vapor pressure toluene at 35 °C =	52	mm Hg
MW of CD =	88.54	lb/lb-mol
MW of Toluene =	92.14	lb/lb-mol
CD component of emulsion =	0.099	wt % max
Toluene component of emulsion =	0.008415	wt % (LD-750)
Weight of LD loaded per truck =	46000	lb wet wt
Weight of LD loaded per tote =	2200	lb wet wt
Weight of LD loaded per Railcar =	180000	lb wet wt
LD Density =	68.53	lb/ft3
Specific Volume =	359.7	ft3/mol
Operating Time =	8760	hr

Emission Rates

Truck Loading

Convert CD concentration to exclude the solids component

CD component of emulsion = 0.099 / (1 - 0.5)
= 0.198 %

Mole Fraction CD = 0.198 / 88.54 / [0.198 / 88.54 + (100 - 0.198) / 18]
= 0.0004

Partial Pressure CD = 334.3 x 0.0004
0.135 mm Hg

Mole Fraction CD in Vapor = 0.135 mm Hg / 760
= 0.000177

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Liquid Dispersion Loading (Truck, Tote, Railcar)
TEMPO ID: EQT0214
Point Source ID No.: 1700-85 *Page* 2 *of* 4

Vapor Vented per Truck = 46000 lb/truck / 68.53 lb/cu ft
= 671.24 ft3/truck

No. of Trucks = 15 MMlb/yr dry / (1 - 0.5) x 0.65 x 1000000 / 46000 lb/truck
= 424 trucks

CD Emitted = 424 trucks/yr x 671.24 cu ft/truck x 0.000177
= 50.48 ft3

CD Emitted = 50.48 cu ft x 88.54 lb/lb-mole / [359.7 cu ft/mole x (273 / (273 + 35))]
= 14.02 lb
= 0.007 tpy
= 0.002 lb/hr

Convert toluene concentration to exclude the solids component

Toluene component of emulsion = 0.008415 / (1 - 0.5)
= 0.017 %

Mole Fraction Toluene = 0.01683 / 92.14 / [0.01683 / 92.14 + (100 - 0.01683) / 18]
= 0.00003

Partial Pressure Toluene in Tank = 52 x 0.00003
0.002 mm Hg

Mole Fraction Toluene in Vapor = 0.002 mm Hg / 760
= 0.000002

No. of Trucks = 3.7 MMlb/yr dry / (1 - 0.5) x 0.65 x 1000000 / 46000 lb/truck
= 105 trucks

Toluene Emitted = 105 trucks/yr x 671.24 cu ft/truck x 0.000002
= 0.16 ft3

Toluene Emitted = 0.16 cu ft x 92.14 lb/lb-mole / [359.7 cu ft/mole x (273 / (273 + 35))]
= 0.05 lb
= 0.00002 tpy
= 0.000005 lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Liquid Dispersion Loading (Truck, Tote, Railcar)
TEMPO ID: EQT0214
Point Source ID No.: 1700-85 *Page* 3 *of* 4

Tote Filling

Allow 25% for reworking off spec and returns

Vapor Vented per Tote = 2200 lb/tote / 68.53 lb/cu ft
= 32.10 ft3/tote

No. of Totes = 15 MMlb/yr dry / (1 - 0.5) x (1 - 0.65) x 1000000 / 2200 lb/tote x 1.25
= 5966 totes

CD Emitted = 5966 totes/yr x 32.1 cu ft/tote x 0.000177
= 33.97 ft3

CD Emitted = 33.97 cu ft x 88.54 lb/lb-mole / [359.7 cu ft/mole x (273 / (273 + 35))]
= 9.43 lb
= 0.005 tpy
= 0.001 lb/hr

No. of LD-750 Totes = 3.7 MMlb/yr dry / (1 - 0.5) x (1 - 0.65) x 1000000 / 2200 lb/tote x 1.25
= 1472 totes

Toluene Emitted = 1472 totes/yr x 32.1 cu ft/tote x 0.000002
= 0.11 ft3

Toluene Emitted = 0.11 cu ft x 92.14 lb/lb-mole / [359.7 cu ft/mole x (273 / (273 + 35))]
= 0.03 lb
= 0.00002 tpy
= 0.000004 lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Liquid Dispersion Loading (Truck, Tote, Railcar)
TEMPO ID: EQT0214
Point Source ID No.: 1700-85 *Page* 4 *of* 4

Railcar Loading

A maximum of 50 railcars will be loaded per year.

No. of Railcars = 50 railcars

Vapor Vented per Truck = 180000 lb/railcar / 68.53 lb/cu ft
= 2626.59 ft3/railcar

CD Emitted = 50 railcars/yr x 2626.59 cu ft/railcar x 0.000177
= 23.29 ft3

CD Emitted = 23.29 cu ft x 88.54 lb/lb-mole / [359.7 cu ft/mole x (273 / (273 + 35))]
= 6.47 lb
= 0.003 tpy
= 0.001 lb/hr

Toluene Emitted = 50 railcars/yr x 2626.59 cu ft/railcar x 0.000002
= 0.30 ft3

Toluene Emitted = 0.3 cu ft x 92.14 lb/lb-mole / [359.7 cu ft/mole x (273 / (273 + 35))]
= 0.09 lb
= 0.00004 tpy
= 0.00001 lb/hr

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	30.08	0.0034	0.0034	0.015
Chloroprene	29.92	0.0034	0.0034	0.015
Toluene	0.16	0.00002	0.00002	0.00008
Total HAPs	30.08	0.0034	0.0034	0.015
Total TAPs	30.08	0.0034	0.0034	0.015

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Fugitive Emissions - Neoprene Unt
TEMPO ID: FUG0004
Point Source ID No.: 1-93 *Page* 1 *of* 3

Basis:

Site specific emission factors are based on bagging studies performed at various DuPont-Dow facilities including the Pontchartrain Site and consider historical performance from monitoring.
Emissions are for those components located outside of the Poly Building. Fugitives from equipment components located in the Poly Building are covered by the various manhole vents and Poly Building wall fans.
Calculation basis provided by Ms. D. Grego, DuPont

Summary

Equipment	Service	Total Component Count	Average Emission Rate lb/hr	Total Emissions lb/yr	Total Emissions tpy
Valves	Lt. Liquid	314	0.1225	1073	0.54
	Gas	89	0.0320	281	0.14
Pump Seals	Lt. Liquid	14	0.0161	141	0.07
Connectors	All	1780	0.3204	2807	1.40
PRVs	Gas	29	0.0035	30	0.02
		Total:	0.4945	4332	2.17

Maximum Emission Rate = 0.4945 lb/hr

Speciation

Chloroprene Emissions = 0.3657 lb/hr
Chloroprene Emissions = 3203 lb/yr
Chloroprene Emissions = 1.602 tpy

Toluene Emissions = 0.0501 lb/hr
Toluene Emissions = 439 lb/yr
Toluene Emissions = 0.219 tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Fugitive Emissions - Neoprene Unt
TEMPO ID: FUG0004
Point Source ID No.: 1-93

Components in Chloroprene Service

Equipment	Service	Component Count	Dupont-Dow Factor lb/hr/src	Emission Rate lb/hr	Total Emissions lb/yr
Valves	Lt. Liq./Gas	234	3.90E-04	0.0913	799
	Gas	66	3.60E-04	0.0238	208
Pump Seals	Lt. Liquid	9	1.15E-03	0.0104	91
Connectors	All	1335	1.80E-04	0.2403	2105
PRVs	Gas	21	1.20E-04	0.0025	22
			Total:	0.3657	3203

Components in Toluene Service

Equipment	Service	Component Count	Dupont-Dow Factor lb/hr/src	Emission Rate lb/hr	Total Emissions lb/yr
Valves	Lt. Liq./Gas	32	3.90E-04	0.0125	109
	Gas	9	3.60E-04	0.0032	28
Pump Seals	Lt. Liquid	2	1.15E-03	0.0023	20
Connectors	All	178	1.80E-04	0.0320	281
PRVs	Gas	3	1.20E-04	0.0004	3
			Total:	0.0501	439

Components in Acetic Acid Service

Equipment	Service	Component Count	Dupont-Dow Factor lb/hr/src	Emission Rate lb/hr	Total Emissions lb/yr
Valves	Lt. Liq./Gas	16	3.90E-04	0.0062	55
	Gas	5	3.60E-04	0.0018	16
Pump Seals	Lt. Liquid	1	1.15E-03	0.0012	10
Connectors	All	89	1.80E-04	0.0160	140
PRVs	Gas	2	1.20E-04	0.0002	2
			Total:	0.0252	221

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Fugitive Emissions - Neoprene Unt
TEMPO ID: FUG0004
Point Source ID No.: 1-93 *Page* 3 *of* 3

Components in Other VOC Service

Equipment	Service	Component Count	Dupont-Dow Factor lb/hr/src	Emission Rate lb/hr	Total Emissions lb/yr
Valves	Lt. Liq./Gas	32	3.90E-04	0.0125	109
	Gas	9	3.60E-04	0.0032	28
Pump Seals	Lt. Liquid	2	1.15E-03	0.0023	20
Connectors	All	178	1.80E-04	0.0320	281
PRVs	Gas	3	1.20E-04	0.0004	3
			Total:	0.0501	439

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Diversion Tank
TEMPO ID: EQT0202
Point Source ID No.: 3-95 *Page* 1 *of* 3

Basis:

Calculations are performed using Water 9.
Since ACR is not in the database, emissions of ACR are estimated to be similar to toluene since the two compounds are of similar vapor pressures.
Calculation basis provided by Ms. D. Grego, DuPont

Hours of Operation = 8760 hr

Average Emission Rates

Acetic Acid

Emission Rate =	2.056E-08	g/s
Emission Rate =	0.0000002	lb/hr
Emission Rate =	0.001	lb/yr
Emission Rate =	0.0000007	tpy

Chloroprene

Emission Rate =	3.16E-06	g/s
Emission Rate =	0.00003	lb/hr
Emission Rate =	0.2	lb/yr
Emission Rate =	0.0001	tpy

Toluene

Emission Rate =	1.666E-07	g/s
Emission Rate =	0.000001	lb/hr
Emission Rate =	0.01	lb/yr
Emission Rate =	0.000006	tpy

ACR

Emission Rate =	1.666E-07	g/s
Emission Rate =	0.000001	lb/hr
Emission Rate =	0.01	lb/yr
Emission Rate =	0.000006	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Diversion Tank
TEMPO ID: EQT0202
Point Source ID No.: 3-95

1,2-Dichlorobenzene

Emission Rate =	1.60E-07	g/s
Emission Rate =	0.000001	lb/hr
Emission Rate =	0.01	lb/yr
Emission Rate =	0.000006	tpy

Maximum Emission Rates

Acetic Acid

Emission Rate =	1.58E-07	g/s
Emission Rate =	0.000001	lb/hr

Chloroprene

Emission Rate =	1.37E-05	g/s
Emission Rate =	0.0001	lb/hr

Toluene

Emission Rate =	1.28E-06	g/s
Emission Rate =	0.00001	lb/hr

ACR

Emission Rate =	1.28E-06	g/s
Emission Rate =	0.00001	lb/hr

1,2-Dichlorobenzene

Emission Rate =	1.23E-06	g/s
Emission Rate =	0.00001	lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Diversion Tank
TEMPO ID: EQT0202
Point Source ID No.: 3-95 *Page* 3 *of* 3

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	0.3	0.00003	0.0001	0.0001
Chloroprene	0.2	0.00003	0.0001	0.0001
1,2-Dichlorobenze	0.01	0.000001	0.00001	0.000006
Toluene	0.01	0.000001	0.00001	0.000006
Total HAPs	0.2	0.00003	0.0001	0.0001
Total TAPs	0.2	0.00003	0.0001	0.0001

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 1 Aeration Tank
TEMPO ID: EQT0203
Point Source ID No.: 4-95 *Page* 1 *of* 3

Basis:

Calculations are performed using Water 9.
Since ACR is not in the database, emissions of ACR are estimated to be similar to toluene since the two compounds are of similar vapor pressures.
Calculation basis provided by Ms. D. Grego, DuPont

Hours of Operation = 8760 hr

Average Emission Rates

Acetic Acid

Emission Rate =	0.000005233	g/s
Emission Rate =	0.00004	lb/hr
Emission Rate =	0.4	lb/yr
Emission Rate =	0.0002	tpy

Chloroprene

Emission Rate =	0.062409	g/s
Emission Rate =	0.495	lb/hr
Emission Rate =	4339	lb/yr
Emission Rate =	2.170	tpy

Toluene

Emission Rate =	0.001774	g/s
Emission Rate =	0.014	lb/hr
Emission Rate =	123	lb/yr
Emission Rate =	0.062	tpy

ACR

Emission Rate =	0.001774	g/s
Emission Rate =	0.014	lb/hr
Emission Rate =	123	lb/yr
Emission Rate =	0.062	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 1 Aeration Tank
TEMPO ID: EQT0203
Point Source ID No.: 4-95

1,2-Dichlorobenzene

Emission Rate =	0.00184	g/s
Emission Rate =	0.015	lb/hr
Emission Rate =	128	lb/yr
Emission Rate =	0.064	tpy

Maximum Emission Rates

Acetic Acid

Emission Rate =	4.05E-05	g/s
Emission Rate =	0.0003	lb/hr

Chloroprene

Emission Rate =	0.27019	g/s
Emission Rate =	2.144	lb/hr

Toluene

Emission Rate =	0.013652	g/s
Emission Rate =	0.108	lb/hr

ACR

Emission Rate =	0.013652	g/s
Emission Rate =	0.108	lb/hr

1,2-Dichlorobenzene

Emission Rate =	0.014244	g/s
Emission Rate =	0.113	lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 1 Aeration Tank
TEMPO ID: EQT0203
Point Source ID No.: 4-95 *Page* 3 *of* 3

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	4586	0.524	2.361	2.293
Chloroprene	4339	0.495	2.144	2.170
1,2-Dichlorobenze	128	0.014	0.113	0.064
Toluene	123	0.014	0.108	0.062
Total HAPs	4590	0.523	2.366	2.295
Total TAPs	4590	0.523	2.366	2.295

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 2 Aeration Tank
TEMPO ID: EQT0204
Point Source ID No.: 5-95 *Page* 1 *of* 3

Basis:

Calculations are performed using Water 9.
Since ACR is not in the database, emissions of ACR are estimated to be similar to toluene since the two compounds are of similar vapor pressures.
Calculation basis provided by Ms. D. Grego, DuPont

Hours of Operation = 8760 hr

Average Emission Rates

Acetic Acid

Emission Rate =	5.58E-07	g/s
Emission Rate =	0.000004	lb/hr
Emission Rate =	0.04	lb/yr
Emission Rate =	0.00002	tpy

Chloroprene

Emission Rate =	0.0007275	g/s
Emission Rate =	0.006	lb/hr
Emission Rate =	51	lb/yr
Emission Rate =	0.025	tpy

Toluene

Emission Rate =	0.00001718	g/s
Emission Rate =	0.0001	lb/hr
Emission Rate =	1	lb/yr
Emission Rate =	0.001	tpy

ACR

Emission Rate =	0.00001718	g/s
Emission Rate =	0.0001	lb/hr
Emission Rate =	1	lb/yr
Emission Rate =	0.001	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 2 Aeration Tank
TEMPO ID: EQT0204
Point Source ID No.: 5-95 *Page* 2 *of* 3

1,2-Dichlorobenzene

Emission Rate =	1.12E-04	g/s
Emission Rate =	0.0009	lb/hr
Emission Rate =	8	lb/yr
Emission Rate =	0.004	tpy

Maximum Emission Rates

Acetic Acid

Emission Rate =	4.31E-06	g/s
Emission Rate =	0.00003	lb/hr

Chloroprene

Emission Rate =	0.00315	g/s
Emission Rate =	0.025	lb/hr

Toluene

Emission Rate =	1.32E-04	g/s
Emission Rate =	0.001	lb/hr

ACR

Emission Rate =	1.32E-04	g/s
Emission Rate =	0.001	lb/hr

1,2-Dichlorobenzene

Emission Rate =	8.70E-04	g/s
Emission Rate =	0.007	lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: No. 2 Aeration Tank
TEMPO ID: EQT0204
Point Source ID No.: 5-95 *Page* 3 *of* 3

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	53	0.006	0.027	0.027
Chloroprene	51	0.006	0.025	0.025
1,2-Dichlorobenze	8	0.001	0.007	0.004
Toluene	1	0.000	0.001	0.001
Total HAPs	60	0.007	0.033	0.030
Total TAPs	60	0.007	0.033	0.030

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Clarifier
TEMPO ID:
Point Source ID No.: 6-95 *Page* 1 *of* 3

Basis:

Calculations are performed using Water 9.
Since ACR is not in the database, emissions of ACR are estimated to be similar to toluene since the two compounds are of similar vapor pressures.
Calculation basis provided by Ms. D. Grego, DuPont

Hours of Operation = 8760 hr

Average Emission Rates

Acetic Acid

Emission Rate =	4.74E-08	g/s
Emission Rate =	0.0000004	lb/hr
Emission Rate =	0.003	lb/yr
Emission Rate =	0.000002	tpy

Chloroprene

Emission Rate =	9.316E-06	g/s
Emission Rate =	0.00007	lb/hr
Emission Rate =	0.6	lb/yr
Emission Rate =	0.0003	tpy

Toluene

Emission Rate =	2.346E-07	g/s
Emission Rate =	0.000002	lb/hr
Emission Rate =	0.02	lb/yr
Emission Rate =	0.000008	tpy

ACR

Emission Rate =	2.346E-07	g/s
Emission Rate =	0.000002	lb/hr
Emission Rate =	0.02	lb/yr
Emission Rate =	0.000008	tpy

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Clarifier
TEMPO ID:
Point Source ID No.: 6-95 *Page* 2 *of* 3

1,2-Dichlorobenzene

Emission Rate =	2.04E-06	g/s
Emission Rate =	0.00002	lb/hr
Emission Rate =	0.1	lb/yr
Emission Rate =	0.00007	tpy

Maximum Emission Rates

Acetic Acid

Emission Rate =	3.66E-07	g/s
Emission Rate =	0.00000	lb/hr

Chloroprene

Emission Rate =	4.03E-05	g/s
Emission Rate =	0.0003	lb/hr

Toluene

Emission Rate =	1.81E-06	g/s
Emission Rate =	0.00001	lb/hr

ACR

Emission Rate =	1.81E-06	g/s
Emission Rate =	0.00001	lb/hr

1,2-Dichlorobenzene

Emission Rate =	1.58E-05	g/s
Emission Rate =	0.0001	lb/hr

Air Emissions Calculation Sheet

RTP Environmental Associates, Inc.
Kenner, Louisiana

Client: DUPONT - PONTCHARTRAIN SITE
Source Description: Clarifier
TEMPO ID:
Point Source ID No.: 6-95

Summary

Compound	Total Loss lb/yr	Average Emission Rate lb/hr	Maximum Emission Rate lb/hr	Annual Emissions tpy
Total VOC	0.7	0.00008	0.0004	0.0003
Chloroprene	0.6	0.00007	0.0003	0.0003
1,2-Dichlorobenze	0.1	0.00002	0.0001	0.00007
Toluene	0.02	0.000002	0.00001	0.000008
Total HAPs	0.8	0.00009	0.0005	0.0004
Total TAPs	0.8	0.00009	0.0005	0.0004

APPENDIX B

CERTIFICATION OF GOOD STANDING

Tom Schedler
Secretary of State

State of Louisiana
Secretary of State

COMMERCIAL DIVISION
225.925.4704

Fax Numbers
225.932.5317 (Admin. Services)
225.932.5314 (Corporations)
225.932.5318 (UCC)

Name	Type	City	Status
E. I. DU PONT DE NEMOURS AND COMPANY	Business Corporation (Non-Louisiana)	WILMINGTON	Active

Business: E. I. DU PONT DE NEMOURS AND COMPANY
Charter Number: 09302090F
Registration Date: 4/24/1919
State Of Origin:

Domicile Address
1007 MARKET STREET
WILMINGTON, DE 19898

Mailing Address
ATTENTION: TAX DIVISION, D-13039
1007 MARKET STREET
WILMINGTON, DE 19898

Principal Business Office
1007 MARKET STREET
WILMINGTON, DE 19898

Registered Office in Louisiana
5615 CORPORATE BLVD., STE. 400B
BATON ROUGE, LA 70808

Principal Business Establishment in Louisiana
PONTCHARTRAIN WORKS
LAPLACE, LA 70068

Status

Status: Active
Annual Report Status: In Good Standing
Qualified: 4/24/1919
Last Report Filed: 4/4/2012
Type: Business Corporation (Non-Louisiana)

Registered Agent(s)

Agent: C T CORPORATION SYSTEM
Address 1: 5615 CORPORATE BLVD., STE. 400B
City, State, Zip: BATON ROUGE, LA 70808
Appointment Date: 12/12/1955

Additional Officers: No

Officer(s)

Officer: NICHOLAS C. FANANDAKIS
Title: Executive Vice-President
Address 1: 1007 MARKET ST.

City, State, Zip:	WILMINGTON, DE 19898

Officer:	THOMAS M. CONNELLY, JR.
Title:	Executive Vice-President
Address 1:	1007 MARKET ST.
City, State, Zip:	WILMINGTON, DE 19898

Officer:	MARY E. BOWLER
Title:	Secretary
Address 1:	1007 MARKET ST.
City, State, Zip:	WILMINGTON, DE 19898

Officer:	MARY P. VAN VEEN
Title:	Vice-President
Address 1:	1007 MARKET ST.
City, State, Zip:	WILMINGTON, DE 19898

Officer:	ELLEN J. KULLMAN
Title:	Officer, Director
Address 1:	1007 MARKET ST.
City, State, Zip:	WILMINGTON, DE 19898

Mergers (4)

Filed Date	Effective Date:	Type	Charter#	Chater Name	Role
1/29/1973	1/29/1973	MERGE	09302090F	E. I. DU PONT DE NEMOURS AND COMPANY	SURVIVOR
6/4/1973	6/4/1973	MERGE	09302090F	E. I. DU PONT DE NEMOURS AND COMPANY	SURVIVOR
10/24/1977	10/24/1977	MERGE	09302090F	E. I. DU PONT DE NEMOURS AND COMPANY	SURVIVOR
4/19/1982	4/19/1982	MERGE	09302090F	E. I. DU PONT DE NEMOURS AND COMPANY	SURVIVOR

Amendments on File (35)

Description	Date
Amendment	6/18/1923
Amendment	7/27/1925
Amendment	11/13/1926
Amendment	2/16/1929
Amendment	5/14/1934
Amendment	8/23/1937
Amendment	10/30/1939
Amendment	5/2/1940
Amendment	4/10/1942
Amendment	6/22/1946
Amendment	5/12/1947
Amendment	5/12/1947
Amendment	6/20/1949
Amendment	7/11/1955
Amendment	7/11/1955
Amendment	7/11/1955
Amendment	12/5/1957
Amendment	7/19/1963
Amendment	9/26/1966

Amendment	5/6/1968
Amendment	5/14/1970
Merger	1/29/1973
Merger	6/4/1973
Amendment	4/29/1974
Merger	10/24/1977
Amendment	10/24/1977
Amendment	4/20/1979
Amendment	4/20/1979
Amendment	4/25/1980
Amendment	8/21/1981
Merger	4/19/1982
Stmt of Chg or Chg Prin Bus Off	2/22/1985
Stmt of Chg or Chg Prin Bus Off	4/1/1986
Stmt of Chg or Chg Prin Bus Off	2/1/1993
Stmt of Chg or Chg Prin Bus Off	1/29/2008

Print

APPENDIX C

FUGITIVE EMISSIONS PROGRAM CONSOLIDATION NOTICE

Louisiana Fugitive Emission Program Consolidation
Source Notice and Agreement
DuPont Pontchartrain Site, St. John the Baptist Parish
(Agency Interest Numbers 1101 and 38806)

By this notice and agreement, E. I. du Pont de Nemours Co. (DuPont Pontchartrain Site) notifies the Louisiana DEQ (LDEQ) and the United States Environmental Protection Agency (EPA) of the consolidation of fugitive emission programs as indicated below, effective January 1, 2014. Semiannual reports will be submitted on August 15 and February 15, to cover the periods January 1 through June 30 and July 1through December 31, respectively. DuPont Pontchartrain Site agrees to implement the consolidated program in accordance with the Louisiana Fugitive Emission Program Consolidation Guidelines attached, and accepts federal and state enforceability of the consolidated program by EPA and LDEQ. DuPont Pontchartrain Site further acknowledges that compliance with the consolidated program in accordance with the Guidelines will serve to comply with each of the fugitive emission programs being consolidated. In addition, DuPont Pontchartrain Site acknowledges that noncompliance with the consolidated program in accordance with the Guidelines may subject DuPont Pontchartrain Site to enforcement action for one or more of the fugitive emissions programs being consolidated. Unless successfully challenged or otherwise terminated, this agreement remains in effect until revised or replaced upon request by DuPont Pontchartrain Site, LDEQ, or EPA, or until the initial Part 70 permit is issued for DuPont Pontchartrain Site, whichever is earliest. If, at any time, the agreement is not in effect with the State, then it shall not be in effect with EPA.

While several units at the DuPont Pontchartrain Site are only subject to less stringent fugitive emission rules, the entire site will comply with the HON (40 CFR 63 Subpart H) as the most stringent and guiding fugitive rule in each unit at the site per table below. On the effective date the reporting, recordkeeping, and monitoring time period (schedule) will be readjusted for the entire site to coincide with the current Diamines, ACR, and HCL Recovery Unit's schedule which runs as a calendar year from January through December therefore making the entire site applicable to just one time period. Also from the effective date, leak rates will be consolidated and calculated for the entire site per HON guidelines. The DuPont Pontchartrain Site will continue the annual valve and biennial connector monitoring frequency for the plant site until percentage leak rates dictate altering the monitoring frequency.

Unit or Plant Site	Programs being Consolidated	Stream Applicability	Overall Most Stringent Program
DuPont Pontchartrain Site	63 Sub H – HON 63 Sub FFFF 63 Sub U - P & R I LA Non-HON NSPS RCRA Sub BB LAC 33:III.2121	5% VOHAP 5% VOHAP 5% VOHAP 5% VOTAP 10% VOC 10% VOC 10% VOC	63 Subpart H - HON MACT

Signed

Walter Glenn

Walter Glenn, Plant Manager

This 18 day of November, 2013

DuPont
Pontchartrain Site
560 Highway 44
LaPlace, LA 70068-6908

November 18, 2013

Dept. of Environmental Quality
Office of Environmental Services, Air Permits Division
P. O. Box 4313
Baton Rouge, La 70821-4313

CERTIFIED MAIL NO. 7011 3500 0001 6350 0509

Re: DuPont Pontchartrain Site Fugitive Emissions Program Consolidation Source Notice and Agreement (AI# 1101 and AI# 38806)

The DuPont Pontchartrain Site (DuPont) is requesting consolidation of all applicable site fugitive emission programs in accordance with the Louisiana Fugitive Emission Program Consolidation Guidelines and is hereby submitting the attached Source Notice and Agreement. DuPont will implement the consolidated program beginning January, 1, 2014.

While several units are only subject to less stringent fugitive emission rules, the entire site will comply with the HON (40 CFR 63 Subpart H) as the most stringent and guiding fugitive rule in each unit at the site. According to 40 CFR 63.162(g)(2) and 63.9(i) it is acceptable to adjust time periods upon mutual agreement between owner and Administrator. In addition to being regulatory acceptable, adjusting time periods is in keeping with the spirit of the consolidation agreement recordkeeping and report streamlining intention. DuPont is also requesting that the reporting, recordkeeping, and monitoring time period (schedule) be readjusted for the entire site to coincide with the current Diamines, ACR, and HCL Recovery Unit's schedule which runs as a calendar year from January through December therefore making the entire site applicable to one time period. Each unit at the site currently has a leak rate that allows for annual valve and biennial connector monitoring. From the effective date, leak rates will be consolidated and calculated for the entire site per HON guidelines. The DuPont Pontchartrain Site will continue the annual valve and biennial connector monitoring frequency for the plant site until percentage leak rates dictate altering the monitoring frequency.

The following paragraphs provide additional details relating to the fugitive programs being consolidated and how the fugitive program will be structured after the effective date.

The DuPont Pontchartrain Site currently has five units subject to various fugitive emissions regulations which have multiple overlapping applicable reporting and recordkeeping requirements. The recordkeeping requirements of these various regulations result in the same data being saved and summarized multiple times in the LDAR database. The current reporting requirements result in the submittal

of ten different reports with deadlines for these reports at different times throughout the year. These different reports often result in submitting data already reported in previous reports. In other words, multiple reports are due for different periods with some of these reports requiring and containing the same data or at least some of the same data. The *Fugitive Emissions Semi-annual Report Summary Table* below summarizes the program report and reporting time period information for each unit.

The following is a list of the units at the site with the most stringent applicable regulation in parenthesis: the Diamines Unit (HON), ACR Unit (MON), Chloroprene Unit (HON), the Neoprene Unit (Polymer & Resins I), and the HCL Recovery Unit (RCRA BB). The Diamines Unit which has always been owned by E. I. du Pont de Nemours Co. has already been consolidated by agreement dated October 15, 1996. The ACR, Chloroprene, HCl Recovery, and Neoprene Units were operated by DuPont Performance Elastomers, a separate entity, before 2013 and are not currently consolidated per Louisiana Fugitive Agreement. The entire facility (DuPont Pontchartrain Site) is now owned by E. I. du Pont de Nemours Co.

Fugitive Emissions Semi-annual Report Summary Table

Unit	**Program Report**	**Reporting Time Period before January 1, 2014**	**Reporting Time Period beginning on January 1, 2014**
Diamines	HON - Consolidated	January through June and July through December	January through June and July through December
Chloroprene	HON	April through September and	January through June and July
		October through March	through December
Neoprene	Polymers and Resins I	August through January and February through July	January through June and July through December
ACR	MON	January through June and July through December	January through June and July through December
HCL Recovery	Chapter 21	January through June and July through December	January through June and July through December

Note: Chapter 21 report contains data from Chloroprene, Neoprene, and ACR Units also.

Consolidating all the units at the DuPont Pontchartrain Site and making HON the Guiding Regulation (most stringent rule) throughout the site, will reduce the recordkeeping and reporting requirements without reducing quality of data that was submitted in the multiple reports. All of the monitoring and leak data would still be reported, it will just be reported in two semi-annual reports instead of the current ten reports that result in multiple instances of data duplication. The site will also be complying with an overall more stringent fugitive emissions program

than by complying with various less stringent programs, therefore over time reducing fugitive emissions at the site. The DuPont Pontchartrain Site will continue to submit fugitive reports for the non-HON regulations until all data for the 2013 calendar year has been reported. After all 2013 data has been reported per non-HON fugitive requirements, the DuPont Pontchartrain Site will discontinue these non-HON fugitive reports and will only submit HON semi-annual reports twice a year for the entire site.

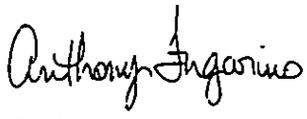
Each unit at the site currently has a leak rate that allows for annual valve and biennial connector monitoring. The DuPont Pontchartrain Site will continue this monitoring frequency (skip period frequency) for the plant site until percentage leak rates dictate altering the monitoring frequency. Leak rates will be calculated for the entire site per HON for periods that relate to calendar year of January through December beginning on the effective date.

In summary, on January 1, 2014, the effective date of the consolidated agreement, the DuPont Pontchartrain Site will streamline the recordkeeping, reporting, and monitoring requirements and readjust the recordkeeping, reporting, and monitoring requirements' annual time period to January through December to coincide with the current Diamines, ACR, and HCL Recovery Units' annual time period while keeping the current skip period monitoring frequency intact.

At the next opportunity for renewal or modification of each of the effective permits, DuPont will include a copy of the Fugitive Emissions Program Consolidation Source Notice and Agreement in each of the effective Title V operating permit applications. Current effective Permit Numbers are 3000-V3, 206-V1, 2249-V6, and 2090-V5.

If you have any questions or need additional information you can contact me at (985) 536-5438, or at Anthony.J.Fugarino@dupont.com.

Sincerely,



Anthony Fugarino
SHE Consultant

Enclosures

cc: US EPA Region 6
Compliance Assurance and Enforcement Division
Mail Number: 6-EN-A
1445 Ross Avenue, Suite 700
Dallas, Texas 75202-2733
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